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The Common Heritage of Mankind Provision in the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

Introduction

The Draft Agreement Governing the Activities of States on the Moon and Other Celestial Bodies of July 3, 1979,[1] is intended to provide a more detailed regime than now exists for the moon and celestial bodies and their natural resources. The proposed treaty deals only with these areas and their resources. It does not have application to outer space, per se. The treaty permits certain forms of conduct. It prohibits other forms of conduct.

The Moon Treaty has been the product of many labors. In the United States several of its most carefully negotiated provisions have been adversely criticized. Such criticisms appear to be unfounded.

Its terms, properly understood, will provide a regime supportive of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies.[2] The Principles Treaty focuses on the exploration, use, and exploitation of the space environment consisting of outer space, per se, the moon, and celestial bodies. The Moon Treaty, unlike the Principles Treaty, makes specific provision for the exploitation of the natural resources of the Moon

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[1]U.N. Doc. A/34/20, 1979. It will be referred to as the Moon Treaty.

[2]18 U.S.T. 2410, T.I.A.S. No. 6347, 610 U.N.T.S. 205. It entered into force for the United States on October 10, 1967. It will be referred to as the Principles Treaty. At present it is in force for over 80 states including all of the space-resource states.

and celestial bodies. The Moon Treaty, while preserving the provision contained in Article 2 of the Principles Treaty that there may not be a sovereign appropriation of the moon and celestial bodies, does enable defined juridical and natural persons to obtain proprietary rights in certain natural resources on and of the moon and celestial bodies.

The new rights and duties contained in the Moon Treaty have been brought together through the adoption of the Common Heritage of Mankind (CHM) principle. Since this principle on its own account has introduced a new approach to the exploration, use, and exploitation of natural resources, there is a need to examine its meaning and utility and to compare this principle with other principles that might have been adopted respecting resource use, exploitative activities, and proprietary rights concerning natural resources. Many important values, interests, wants, and needs, require evaluation in order to comprehend the legal significance and evolving range of application of the CHM principle.

The Moon Treaty necessitates the making of distinctions between at least four different situations—all of which have factual bases and legal consequences. First, there is the difference to be noted between the spatial area of the moon and celestial bodies and their natural resources. Second, there is a difference between the prohibition contained in Article 2 of the Principles Treaty against national, e.g., sovereign, appropriation of spatial areas and the right of legal persons to obtain property rights in certain natural resources. Third, the provisions of Articles 1 and 3 in particular of the Principles Treaty, as well as other articles, allowing for the exploration, use, and exploitation of the space environment by states must be contrasted with the rights of other legal persons to engage in such exploration, use, and exploitation. Fourth, there is a need to distinguish the characteristics of the CHM principle from such other legal principles as *res nullius, res communis,* and *res communis humanitatis.*[3]

The substantive provisions of the 1967 Principles Treaty made twenty-five references to the moon and other celestial bodies.[4] Additionally, there were

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[3]The *res communis humanitatis* concept has been considered by its proponents to be an augmentation of the *res communis* principle as it related to the moon and other celestial bodies. A function of the concept was to "avoid the legal vacuum of non-appropriation, nonproperty, non-cession, non-exchange, non-lease, non-sale, non-transfer and so forth." A. A. Cocca, *The Principles of the "Common Heritage of all Mankind" as Applied to Natural Resources from Outer Space and Celestial Bodies,* PROCEEDINGS OF THE 16TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 174 (1974). Applying the concept only to the moon and other celestial bodies Cocca indicated support coming from a congress of international lawyers meeting in Buenos Aires in 1969. They concluded that the concept was a "legal condition especially elaborated by law for this new field of human activity, and which is derived from the community of interests and benefits recognized in favor of mankind in outer space and celestial bodies." *Id.* Support for the concept was found to exist in the 1967 Principles Treaty.

[4]Other outer space treaties binding the United States and the major space-resource states are the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, December 3, 1968, 19 U.S.T. 7570, T.I.A.S. No. 6592, 672 U.N.T.S 119; Convention on International Liability for Damage Caused by Space Objects, October 9, 1973, 24 U.S.T. 2389, T.I.A.S. No. 7762; and Convention on Registration of Objects Launched into Outer Space, September 15, 1976, T.I.A.S. No. 8480.

seven separate references to celestial bodies. The treaty made no reference whatever to the natural resources of the space environment. It was an international agreement designed to deal with general principles having application to the space environment.

Events occurring in the 1960s suggested that a more detailed legal structure dealing with man's moon and celestial body activity, including use, exploration, and exploitation, might be desirable. Influencing early proposals were the successful moon landing by the United States in 1969, an awareness that tangible moon rocks were being returned to earth, the attention being given by scientists to such materials, the preliminary studies identifying the commercial uses of space materials and facilities, the knowledge that orbital positions and access to radio spectra were becoming valuable natural resources, and speculations that it might be possible to establish habitations on the moon. Even the temporary presence of humans would require the exploitation of available tangible and intangible resources.

The presence of an effective rule of law in the space environment depends on a wise blending of general principles with a more specific set of rules. The Principles Treaty fixed legal principles for the free exploration, use, and exploitation of the space environment as well as assuring free access to that environment. The 1979 Moon Treaty seeks to formulate a particularized set of rules and present and future processes whereby the optimum exploration, use, and exploitation of the moon and its natural resources may take place.

The Moon Treaty contains substantive terms of immense importance to the well-being of mankind. Among its notable provisions are those making international law applicable to all activities on the moon—including its exploration, use, and exploitation,—requiring that the moon shall be used by all states' parties exclusively for peaceful purposes, providing that the exploration, use, and exploitation of the moon shall be the province of all mankind, imposing on states the duty of providing notice concerning moon activities, providing for nondiscriminatory and free scientific investigation on the moon, imposing the duty not to disrupt the existing balance of the moon's natural environment, and affording to astronauts and other persons on the moon all safeguards respecting their lives and their health. As early as 1972 the negotiators arrived at a consensus that national nongovernmental entities, e.g., private legal persons—including juridical and natural persons—should engage in moon and celestial body activity "only under the authority and continuing supervision of the appropriate State Party."[5]

While many of these principles are already a part of the existing international law of the space environment, the 1979 Moon Treaty has given more detail and substance to such principles.[6]

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[5]Article 13, Draft Treaty Relating to the Moon, U.N. Doc. A/AC.105/101, p. 6, 11 May 1972. This provision was retained in all subsequent drafts and became Article 14 of the Moon Treaty.

[6]The early drafts borrowed heavily on provisions contained in the Principles Treaty. V. Kopal, *The Development of Legal Arrangements for the Peaceful Uses of the Moon,* PROCEEDINGS OF

The treaty contains a strikingly new international legal principle. It is the principle, set out in Article 11, that "The Moon and its natural resources are the common heritage of mankind." Because of its importance and relative novelty this analysis will focus primarily on the meaning of the CHM principle and what is intended to be gained by its incorporation into the international law applicable to the moon and other celestial bodies. Inextricably linked to natural resources and CHM are concepts of property and an international regime, including the prospect of a new international organization.

The Moon Treaty, by extending the detailed rule of law to the moon and to other celestial bodies, will afford stability to governments and to private enterprise so that worthwhile exploitative activities may be initiated. As early as 1972 the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space (COPUOS) had taken account of "the need for economic advancement and for the encouragement of investment and efficient development" in order to assure that the resources of the Moon and other celestial bodies would become a reality.[7]

In the United States it is to be expected that such activities will be carried on by both the national and other governmental bodies and by private firms. This would follow, for example, the approach now favored in which both the national government and private enterprise engage in telecommunication activities in the space environment. With the entry into force of the Moon Treaty both states and private enterprise will be able to make informed plans relating to the exploitation of the moon and other celestial bodies including the natural resources of such areas.

The first proposal for an international agreement providing for the detailed governance of the moon and other celestial bodies, including the use of the CHM principle, came before COPUOS on July 3, 1970, in the form of an Argentinian "Draft Agreement on the Principles Governing Activities on the Use of Natural Resources of the Moon and Other Celestial Bodies."[8] The Argentinian proponent, Professor A. A. Cocca, has treated the foregoing as a principle of law and not as a philological question nor equated to the realms

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THE 15TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 161 (1973); M. Smirnoff, *The Need for a Treaty on the Legal Status of the Moon,* PROCEEDINGS OF THE 15TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 175 (1973); S. Gorove, *The Draft Treaty Relating to the Moon: An Overview and Evaluation,* PROCEEDINGS OF THE 19TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 41 (1977); B. A. Luxenberg, *United Nations Draft Treaty on the Moon,* in *World Wide Space Activities,* SUBCOMM. ON SPACE SCIENCE AND APPLICATIONS, COMM. ON SCIENCE AND TECHNOLOGY, U.S. House of Representatives, 95th Cong., 1st Sess., p. 538 (1977).

[7]U.N. Doc. A/AC.105/101, p. 6, 11 May 1972; U.N. Doc. A/AC.105/196, Annex 1, p. 20, 11 April 1977.

[8]U.N. Doc. A/AC.105/C.2/L.71 and Corr. 1; U.N. Doc. A/AC.105/85, Annex 2, p. 1, 3 July 1970. Article 1 of the Argentinian Draft Agreement stated: "The natural resources of the Moon and other celestial bodies shall be the common heritage of mankind." *Id.*

of philosophy.[9] It was also his view, which is supported by Article 8 of the Principles Treaty, that the principles of property law accompanied mankind's ventures into the space environment.[10] From that date to July 3, 1979, the Legal Subcommittee of COPUOS gave substantial attention to the drafting of a Moon Treaty containing provisions going far beyond the focused approach of the Argentinian draft.

On July 3, 1979, COPUOS, through the established process of consensus—namely, with the approval of all of the members, but without a formal vote—adopted for submission to the Political Committee and to the General Assembly a Moon Treaty of twenty-one articles.[11] In the years between 1972 and 1977, following the request of the Soviet Union on June 4, 1971, to the General Assembly to include as an agenda item the topic of "Preparation of a Treaty Concerning the Moon,"[12] the Legal Subcommittee considered 27 texts concerning natural resources, 15 relating to the scope of the agreement, and 19 relating to the time in which states should report information relating to space activities.[13] Annual discussions contributed to the slow emergence of consensus.

On April 3, 1978, Austria submitted to COPUOS a working paper consisting of 21 articles.[14] This document borrowed heavily on earlier drafts. In 1972 the Legal Subcommittee had completed a draft consisting of a preamble and 21 articles that included in square brackets the provision that "[t]he natural resources of the Moon and other celestial bodies shall be the common heritage of mankind."[15] The same square bracketed provision was contained in the April 27, 1973, "Draft Treaty Relating to the Moon."[16]

In 1974 Bulgaria submitted a draft, which contained provisions similar to those that had been formulated in 1973.[17] By 1978 the proposal read: "For the purposes of this Agreement, the Moon and its natural resources shall be considered the common heritage of mankind, which finds its expression in the relevant Agreement and in particular in paragraph 5 of this [11] article."[18] Although there were other areas of disagreement at COPUOS be-

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[9]A. A. Cocca, *op. cit.*, p. 174 (1974).

[10]*Id.*, p. 173. *Compare* A. A. Cocca, *Legal Status of the Natural Resources of the Moon and Other Celestial Bodies*, PROCEEDINGS OF THE 13TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 146 (1971). Reference was made in this article to the 1969 initiative of Argentina identifying the legal status of materials, resources, and products of the moon.

[11]There are 47 members of COPUOS coming from all of the principal space-resource states, from many developing countries, from all of the continents, and representing different social-economic perspectives and ideologies.

[12]U.N. Doc. A/8391, 4 June 1971. 10 INT'L LEGAL MATERIALS 839 (July 1971). A draft treaty of 15 articles entitled "Treaty Concerning the Moon" was attached as an Annex.

[13]U.N. Doc. A/AC.105/196, Annex 1, 11 April 1977.

[14]U.N. Doc. WG.I(1978)/WP.2, 3 April 1978; U.N. Doc. A/AC.105/218, Annex 1, 13 April 1978.

[15]U.N. Doc. A/AC.105/101, p. 6, 11 May 1972.

[16]U.N. Doc. A/AC.105/115, 27 April 1973; 1 J. SPACE L., p. 170 (Fall 1973).

[17]U.N. Doc. A/AC.105/133, p. 5, 6 June 1974.

[18]U.N. Doc. A/AC.105/218, Annex 1, p. 6, 13 April 1978.

tween 1973 and 1979 on this subject, the principal obstacle centered around a provision relating to the exploration and use, including exploitation, of natural resources. Affecting a consensus disposition of this issue was the distinction to be drawn between private property and public sovereignty. Influencing these considerations were the meanings to be attributed to such concepts as "the province of mankind" and "the common heritage of mankind."

Both have been regarded as important political-legal concepts. To the extent that they have been incorporated into international space agreements they can only be treated as legal principles. As legal principles, namely, as starting points for legal reasoning, several demands have surfaced. One has been to endeavor to ascertain—as much as it is possible to read the future—what the substantive content of these legal principles will come to mean when they are applied in a work-a-day world. The acceptance in treaty form of the CHM principle will not prevent affected States from attaching different interpretations to its meaning.

The Public Sovereignty-Private Property Dilemma Relating to Space Resources

With the transition from the exploration of the space environment to its practical use and exploitation it has become necessary to identify the legality of exploitative conduct. This is now true respecting the exploitation of the moon and its natural resources.

Viewed from the perspective of policy choices it would be possible to accord rights to both the moon and to its natural resources to both natural and juridical persons. The latter could include states and international bodies, both intergovernmental, such as the European Space Agency, and private legal persons endowed with a national character, such as a multinational corporation. Their respective interests could take into account security, commerce, and science, to mention only those that are of relevance here. Thus, the subject involves the interests of several international actors in both the moon and its natural resources. The public actors are concerned with their sovereign and governmental rights and functions. The private actors seek a clarification of their rights under domestic and international law as they contemplate exploitative activities. The private actors, no less than the public actors, are concerned about property rights resulting from their efforts.

During the period since 1960, as progress was made toward the drafting of the 1979 Moon Treaty, many policy approaches were suggested. These alternatives need to be kept in mind when an effort is made to understand the conclusion reached in Article 11 of that Treaty that both "the Moon and its natural resources are the common heritage of mankind. . . ." Numerous political-legal options were available. Each would have resulted in qualitatively different rights and duties for both natural and juridical persons.

The views of international lawyers from many countries have had a substantial impact on the identification of competing policy choices. Their contributions were weighed by COPUOS and influenced the final decision to

make the CHM principle a key part of the 1979 Moon Treaty.

Writing in 1962 about the expected exploitability of mineral resources, it was suggested by Jenks that "[i]t would seem desirable to start from the principle that title to the natural resources of the Moon and of other planets and satellites should be regarded as vested in the United Nations and that any exploitation of such resources which might be possible should be on the basis of concessions, leases or licenses from the United Nations."[19] Presumably the holders of such property rights might have been both the sovereign State, public international organizations, and private legal persons. Alternative legal regimes for the exploration, use, and exploitation of the moon and its natural resources could include such extremes as the total prohibition of both public and private space activities or, by contrast, a wholly unregulated power for public and private persons to engage in such activities. Such legal controls could take the form of specific authorizations. Or, certain forms of conduct might have been permitted although not specifically authorized. In the event of a total absence of international legal controls states would be allowed to assert unrestricted public sovereignty. Absent a legal regime private persons would be allowed to claim unrestricted rights, including exclusive uses, which would constitute either property rights or a preferred status respecting resources. In legal terminology, the legal options would encompass the concepts or principles of *res nullius, res communis, res communis humanitatis,* and the Common Heritage of Mankind. Specific consequences would flow from the identification of one as opposed to an alternative approach. For example, any one of the four would be a denial of the proposal put forward by Jenks. Any one of the four would have a major impact on public and private space activity. Depending on which of the options might be adopted states, intergovernmental organizations, and private persons would be differently governed in the exploration, use, and exploitation of the area and its resources, including uses taking on an exclusive character, e.g., having property connotations.

An alternative to the Jenks proposal for U.N. authority was soon put forward.

In its Draft Declaration of the Basic Principles Governing the Activities of States Pertaining to the Exploration and Uses of Outer Space of September 10, 1962, the Soviet Union sought to limit the exploration and use of the space environment to states. Thus, it suggested "7. All activities of any kind pertaining to the exploration of outer space shall be carried out solely and exclusively by States. . . ."[20] One of the relevant principles in the Declara-

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[19]C. W. JENKS, THE COMMON LAW OF MANKIND, p. 398 (1962). *Compare* Jenks, *Seven Stages in the Development of Space Law,* PROCEEDINGS OF THE 11TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 256 (1969).

[20]U.N. Doc. A/AC.105/L.2; U.N. Doc. A/5181, Annex 3. In a revised draft of April 16, 1963, the proposal read: "7. All activities of any kind pertaining to the exploration and use of outer space shall be carried out solely by States. If States undertake activities in outer space collectively, either through international organizations or otherwise, each State participating in

tion referred to international responsibility for damage "done to a foreign State or to its physical or juridical persons as a result of such activities."[21]

The United States advanced the view on September 11, 1962, that both states and international organizations would be "responsible for the launching of a space vehicle. . . ."[22] This position was restated in the U.S. Draft Declaration of Principles Relating to the Exploration and Use of Outer Space of December 8, 1962.[23] This proposal was put forward in the context of responsibility for launching and possible liability for damages.

In explaining the import of this proposal the U.S. representative told the legal Subcommittee of COPUOS on April 24, 1963, that it "covered the possibility of a Government enlisting the help of a private corporation or firm, which it might authorize to carry out activities in space subject to continuing Government supervision."[24] It was pointed out that pursuant to U.S. policy, as reflected in the Communications Satellite Act of 1962, a right had been established for private firms to engage in space activity and that the principle of national responsibility for national space activities, both public and private, had been established. This legislation was intended to reassure the limited number of states which had expressed the view that international space activities should be conducted only by states that harms resulting from both private and public activity would be encompassed by a legal regime.

Thus, in September, 1963, the Soviets withdrew their proposal that space activity should be carried out only by states. In commenting on the conduct of activities in space by private firms, under the supervision or control of a government, it was stated: "The Soviet delegation considers it essential to point out that in this field it would be possible to consider the question of not excluding from the declaration the possibility of activity in outer space by private companies, on the condition that such activity would be subject to the control of the appropriate State, and the State would bear international responsibility for it."[25]

These outlooks produced paragraph 5 of General Assembly Resolution 1962 (XVIII) of December 13, 1963, which provided that "States bear international responsibility for national activities in outer space, whether carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried on in conformity with the principles set forth in the present Declaration." Although the declaration did not define "national activities" to include only public activities nor to exclude private activities carried on by nationals, the distinction drawn between

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such activities has a responsibility to comply with the principles set forth in this Declaration." U.N. Doc. A/AC.105/C.2/L.6.

[21] *Id.* ¶ 11.

[22] U.N. Doc. A/AC.105/L.5; U.N. Doc. A/5181, Annex 3.

[23] U.N. Doc. A/C.1/881, p. 23, Article 6.

[24] U.N. Doc. A/AC.105/C.2/SR.20, p. 12.

[25] U.N. Doc. A/AC.105/PV.22, p. 37.

"governmental agencies" and "non-governmental entities" may reasonably be construed to include private firms within the last mentioned category. This conclusion was reenforced by the negotiations and terms employed in the 1967 Principles Treaty, particularly Article 6.

Leading to the 1967 Treaty were the 1966 proposals of the Soviet Union and the United States. On June 16, 1966, the Soviets submitted to the UN Secretary-General a Draft Treaty on Principles which contained the basic terms of paragraph 5 of General Assembly Resolution 1962. It accepted the view that states would bear international responsibility for national activities in outer space or on celestial bodies "whether such activities are carried on by governmental agencies or by non-governmental bodies corporate." Further, such private national legal entities were to be subject to the "authorization and continuing supervision by the State concerned."[26] Pursuant to this language Comsat "would be an 'international responsibility' of the U.S. government, which would also be responsible for its 'authorization and continuing supervision.' "[27] Although the United States did not have a comparable provision in its Draft Treaty of May 10, 1966, it did contemplate the presence of nationals engaging in space activities on the moon, and it did not disavow its early support of private activities or the favored terms of paragraph 5 of General Assembly Resolution 1962.[28]

Both states were also in agreement that the moon, per se, was not to be "subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means." This formulation became Article 2 of the 1967 Principles Treaty, reading, "Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."[29] This was intended to, and did, constitute a prohibition against the presence of national or public sovereignty respecting the spatial area of the moon. By its language it did not deal with natural resources. It did not deal with private activities. It prohibited national sovereignty. In establishing this principle the negotiators borrowed from Article 4 of the 1959 Antarctica Treaty which prohibited national sovereignty in that area. The *res communis* principle, according to Ambassador Goldberg, resulted from "an attempt to create in outer space the closest analogy and that is the high seas."[30] He stated that the treaty allowed no national appropriation, and "forbids claims of sovereignty."[31]

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[26]U.N. Doc., A/6352, 16 June 1966.

[27]SPACE TREATY PROPOSALS BY THE UNITED STATES AND U.S.S.R., STAFF REPORT, COMM. ON AERONAUTICAL AND SPACE SCIENCES, U.S. SENATE 89TH CONG., 2D SESS., p. 23 (1966).

[28]U.N. Doc. A/6327.

[29]18 U.S.T. 2410, T.I.A.S. No. 6347, 610 U.N.T.S. 205.

[30]*Treaty on Outer Space, Hearings before the Committee on Foreign Relations, U.S. Senate,* 90th Cong., 1st Sess., Executive D, p. 63 (1967).

[31]*Id.* at 148. Secretary of State Rusk emphasized that Article 2 of the 1967 Treaty prohibited "national appropriation . . ." and that this provision reinforced the "free-access provisions" of Article 1. *Id.* at 110.

Article 6 of the 1967 Principles Treaty contemplated that space activities relating to the moon would be "carried on by governmental agencies or by non-governmental entities," with the latter to be subject to the "authorization and continuing supervision by the appropriate State Party to the Treaty." That this language was understood as allowing states to authorize private, as well as governmental, activities in the space environment was made clear in the testimony of Ambassador Goldberg before the Senate Committee on Foreign Relations. In explaining the meaning of Article 6 Senator Fulbright observed: "You mean by activities, either by Government or some nongovernmental entity. Do you contemplate private enterprise undertaking development in outer space?"[32] The former responded: "Yes, this might happen, and if it does, then the Government must bear responsibility for nongovernmental organizations. Comsat, organizations of that type."[33]

The foregoing history demonstrates the presence of an international legal regime in which outer space, per se, and the moon and celestial bodies are not subject to national appropriation and consequently there is the absence of public sovereignty in the indicated areas. This constituted a rejection of the *res nullius* option and the acceptance of the *res communis* principle. Flowing from this principle, which had found expression in the law of the high seas, was the right of states, international organizations, and private legal persons to engage in activities in and to make use of the space environment. Since states could not exercise the prerogatives of sovereignty they could not establish property rights, in the sense of exclusive authority, over the indicated spatial areas for themselves, nor could they grant such property rights to those who were subject to their national laws. However, with the decision as set forth in the 1967 Principles Treaty to allow for the free use, exploration, and exploitation of the space environment, including free access thereto, states, international organizations, and juridical and natural persons, including private legal persons, were enabled to exploit the space environment and obtain private property rights in its natural resources.[34] Juridical and natural persons while engaged in such activities pursuant to the authority of a state would be under the control of that state. Parties to the 1967 Treaty are responsible for the conduct of such authorized persons.

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[32] *Id.* at 27.

[33] *Id.*

[34] It has been pointed out that Article 2 of the 1967 Principles Treaty did not alter the terms of paragraph 3 of General Assembly Resolution 1962 in which the prohibition of national appropriation applied to outer space, the moon, and celestial bodies rather than to their resources, even though the treaty "remains silent concerning the exploitation of space resources." C. W. Jenks, *Property in Moon Samples and Things Left upon the Moon,* 12TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 148 (1970). Jenks also observed that the ownership of moon samples "vests in the government of the United States through the action of its agents in reducing into possession . . ." such samples. There would not be "any transfer of property" by the United States in voluntarily making such samples available to other states for their scientific investigations. *Id.* at 149.

The foregoing result was not preordained. Early discussions which occurred prior to the Argentinian draft Agreement of July 3, 1970, raised the issues of public and private property rights concerning both the moon and its natural resources. Beginning in 1960 the International Institute of Space Law, a private group of international lawyers expert in the field of space law, established a working group on celestial bodies. In 1964 the working group put forward a draft resolution that provided in paragraph 3 that celestial bodies "or regions of them shall not be subject to national or private appropriation."[35] While there was support for this proposition at that time, including the reference to private appropriation, with a growing awareness of man's ability to have access to the space environment and his needs to make use of its resources there has emerged an unwillingness by states to impose arbitrary legal constraints on either public or private access and use, exploration, and exploitation.

Nonetheless, M. Smirnoff of Yugoslavia in his role as chairman of the Institute's working group on the moon submitted a proposal in 1966 which included the provision that celestial bodies "shall not be subject to national or private appropriation by claims of sovereignty, by means of use, or by any other means."[36] The proposal also indicated that nongovernmental entities "may explore and use" celestial bodies with the permission of the parent state.[37] Thus, the critical distinction was made between the nonestablishment of private property rights in the form of appropriation, e.g., exclusive use, and the private right to engage in nonexclusive uses in the process of exploration. But, this distinction was made regarding the celestial bodies, per se, and not with regard to their natural resources. In 1967, Article 2 of the Principles Treaty deleted the term "private" from its limitation on the means of effecting appropriation of outer space, the moon, and celestial bodies. At this early stage groups of experts were suggesting that private property rights should not appertain solely to the indicated spatial areas.

Following the September, 1963, withdrawal by the Soviet Union of its opposition to private space activity, Soviet participants in the Institute's meetings nonetheless sought to urge a restrictive meaning for Article 2 of the

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[35]PROCEEDINGS OF THE 8TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 468 (1966). The Institute has given much attention to the establishment of a legal regime for the moon and celestial bodies and their natural resources. See the PROCEEDINGS OF THE 9TH COLLOQUIUM, pp. 8-65 (1967); the 10th Colloquium, pp. 10-63 (1968), as well as contributions in the subsequent colloquia. For example, the question was asked by C. E. S. Horsford, "What rights accrue as to minerals and other natural resources, and does 'use' include the right to take things from a celestial body?" *Legal Problems Relating to the Establishment of a Station with Personnel on the Moon, Introductory Report,* PROCEEDINGS OF THE 10TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 11 (1968). The opinions of the scholars meeting at the annual sessions of the International Institute of Space Law have contributed materially to the present substantive law of the moon and its natural resources.

[36]PROCEEDINGS OF THE 10TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 13 (1968).

[37]*Id.*

Principles Treaty. Thus, in 1968 G. P. Zhukov stated that this article "precludes any possibility of outer space, including the Moon and other celestial bodies, being appropriated by states, private persons or companies."[38] However, he forecast the need for states to engage in "coordinated efforts" regarding the "exploitation of minerals."[39] In the view of one observer the prohibition against national sovereignty respecting the moon would result in a condition in which "nobody—whether a private person or a public body—can acquire the title to exploit its surface or its soil."[40]

E. Brooks, on the other hand, suggested that there was no need to determine if the prohibition against the presence of national sovereignty would inhibit exploitative activities on the moon. In his view the "economic interests of States, private companies and individuals can be as well accommodated by an international organization as they can by the exercise of property rights on a national basis, violative of the nonappropriation clause" of Article 2 of the Principles Treaty.[41]

Zhukov in 1967, while unwilling to accept the position that private legal persons could engage in the exploitation of the natural resources of the Moon, observed that "Each state will have the right to use the natural resources of the Moon."[42] This outlook was favored in 1976 by Reijnen, who, however, has advanced the thought that states could only use such natural resources on the moon. Support for this "exclusivity" proposal was based on the view that natural resources could not be appropriated under the terms of Article 2 of the Principles Treaty.[43] In searching for a legal doctrine upon which to rest this policy outlook Zhukov favored the acceptance of the analogy of "exploitation by a maritime state of the natural wealths on and under the surface of the continental shelf."[44] He rejected the analogy founded in the *res communis* principle of freedom of fishing on the high seas. He stated: "If a state proceeds to the mining of natural resources on a certain

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[38]G. P. Zhukov, *Tendencies and Prospects of the Development of Space Law*, PROCEEDINGS OF THE 11TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 277 (1969).

[39]*Id.* at 279.

[40]R. Mankiewicz, *Intervention with Respect to Permanent Stations on the Moon*, PROCEEDINGS OF THE 11TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 163 (1969). In his view the absence of sovereignty would prevent both public and private entities from engaging in the exploitation of the resources on the Moon, since such activity would "constitute appropriation of things which cannot be appropriated and for which, therefore, no legal title can be acquired." *Id.*

[41]E. Brooks, *Control and Use of Planetary Resources*, PROCEEDINGS OF THE 11TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 348 (1969). He assumed that in such an international body the space-resource states would possess enough influence to be able to receive a commensurate share of benefits.

[42]G. P. Zhukov, *The Problem of Legal Status of Scientific Research Station on the Moon*, PROCEEDINGS OF THE 10TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 61 (1968).

[43]G. C. M. Reijnen, *The History of the Draft Treaty on the Moon*, PROCEEDINGS OF THE 19TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 366 (1977). However, Article 2 only prohibits appropriation of the space environment, per se, not its natural resources.

[44]Zhukov, *op. cit.*, p. 61.

section of the Moon, and for that purpose erects there all the required installations and structures, it would be necessary to recognize the right of that state to the exceptional use of that section, like it has done with regard to the exceptional right of a maritime state to use the natural resources of the continental shelf."[45] In supporting the view that the continental shelf principle should apply to the development of natural resources at a given position on the moon, he concluded that this would allow a state to "preserve the right to use exclusively this section. . . ."[46]

It was the view of Zhukov that since states would be able to serve their economic interests through the exclusive use and exploitation of the natural resources of areas of the moon there was no need to extend the principle of national sovereignty, with its collateral right of national appropriation, to the natural resources, per se. With the adoption of Article 6 of the 1967 Principles Treaty allowing for nongovernmental activities to take place in the space environment, exploitative activities were not limited to states. But, since the Principles Treaty was a statement of general principles, it was still necessary to determine whether the views of Zhukov that the exclusive national right to exploit natural resources should be considered to be a property right, and whether more explicit language than exists in Article 6 of the Principles Treaty, would be required to allow private firms to engage in the use and exploitation of the natural resources of the moon. There was a further need to determine if Zhukov's proposal that a state could be economically dominant in a given section of the moon could stand the test of the prohibitions contained in Article 2 of the Principles Treaty.

Writing in 1966, E. Fasan raised the question of whether there could be an appropriation by a state of a part of a celestial body when national appropriation of the entire body was prohibited.[47] He called for the need to draw a very clear line between the prohibition of sovereign appropriation of a celestial body and the right to use such a body. He noticed that natural resources, such as mineral deposits, on a celestial body would be exploited both by States and private persons. In his view such natural resources "may belong to the individual or the nation that discovers or develops them."[48]

Following the completion of the Principles Treaty, and in the light of the foregoing views, it became necessary to identify the relationship between

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[45] *Id.*

[46] G. P. Zhukov, *Moon for All States,* SPACE WORLD, p. 45 (July 1968). The continental shelf analogy has been rejected. E. Brooks, *op. cit.*, p. 348. Brooks also opposed the view that a state may assert a claim to a section of the moon in order to put forward a claim for exclusive uses of planetary resources. *Id.* at 341.

[47] E. Fasan, *Legal Problems for Celestial Bodies and their Solution,* PROCEEDINGS OF THE 9TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 54 (1967).

[48] *Id. Compare* F. G. Rusconi, *The Legal Status of Heavenly Bodies,* PROCEEDINGS OF THE 9TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 62 (1967); *see also* C. E. S. Horsford, *The Need for a Moon Treaty and Clarification of the Legal Status of Space Vehicles,* PROCEEDINGS OF THE 9TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 48 (1967).

Article 1 and other articles calling for the free exploration and use of the space environment and Article 2 denying national appropriation of the same environment.[49] At stake was a need to clarify if the prohibition against national appropriation of spatial areas also extended to the natural resources of such areas. Also at issue was whether the denial of national appropriation extended to a denial of property rights to private persons both regarding the spatial areas and to the natural resources located in such areas.

In examining these problems Brooks argued that prior to the Principles Treaty the *res nullius* principle applied to the natural resources of the space environment and that states, their nationals, and international organizations could have taken into "exclusive possession" such natural resources.[50] The free exploration and use provisions of Article 1 made it clear that the *res communis* principle was to have application to the moon, celestial bodies, and outer space, per se. The meaning of Article 2 was also interpreted by Brooks. He began by referring to the view of Jenks, who had relied on General Assembly Resolution 1721 (XVI), that, "What is forbidden is the national appropriation of outer space or celestial bodies; the legal regime applicable to any of their natural resources which it may prove possible to and profitable to exploit remains for consideration at a later stage in the light of fuller knowledge of what is practicable and probable."[51] Brooks was not overly persuaded by this interpretation. He suggested that the case was not so clear respecting the use and exploitation of planetary resources without claiming to appropriate them as was the prohibition against public sovereignty over spatial areas.[52] The debates in COPUOS relating to Articles 1 and 2 of the Principles Treaty indicated that some states considered that there could not be private property rights in the space environment and to natural resources located there.[53] On the other hand, other states considered that it was premature to arrive at a conclusion relating to the rights of states to establish valid claims to the natural resources of the space environment. Based on his assessment of the countervailing opinions Brooks concluded that "the question may still be open."[54]

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[49]The potential inconsistency between these articles had been noted by the French representative in COPUOS during the 1966 debates on the treaty. He indicated that it would be necessary "to decide how far the principle of non-appropriation was compatible with effective exploration and exploitation, for the same resolutions that forbade the appropriation of celestial bodies encouraged their use." U.N. Doc. A/AC.105/C/2/SR.57, p. 16. The two articles were considered to be fully compatible by Secretary of State Rusk. Goldberg, *Treaty on Outer Space, op. cit.*, p. 110.

[50]Brooks, *op. cit.*, p. 340.

[51]C. W. JENKS, SPACE LAW, p. 202 (1965).

[52]Brooks, *op. cit.*, p. 341.

[53]For example, the Belgian representative had stated on August 4, 1966, that "his delegation had taken note of the interpretation of the term 'non-appropriation' advanced by several delegations—apparently without contradiction—as covering both the establishment of sovereignty and the creation of titles to property in private law." U.N. Doc. A/AC.105/C.2/SR.71 and Add., p. 7.

[54]Brooks, *op. cit.*, p. 344.

The relationship between Article 1 and Article 2 of the Principles Treaty was described by Ambassador Goldberg as one in which the latter was seen as "complementing" the former.[55] The complementary relationship was identified by Brooks when he stated that "since the use of planetary resources is permitted but national appropriation is not, there is a point at which the use of a planetary resource becomes appropriation and is forbidden."[56] He reasoned that appropriation occurs when there is a substantial use of a tangible resource and when this results in "a significant benefit to a single nation."[57] Thus, while accepting the total prohibition placed on states, per se, in Article 2 relating to national appropriation of the space environment, per se, he accepted the proposition that a state could engage in exploitation provided the magnitude of the exploitation was not excessive. This would mean that a lesser account of exploitation of the natural resources of the areas was permissible when engaged in by a state. Although not stated, presumably private persons would be entitled at least to the same amount of exploitative use. Or, they might be allowed unlimited exploitative use of natural resources since Article 2 referred only to national appropriation and such prohibition on natural appropriation was limited only to the spatial areas—and not to the natural resources of such areas.

The suitability of the *res communis* principle to the use and exploitation of the natural resources of the moon received much attention by space law experts prior to the COPUOS negotiations. Ferrer urged the application of this principle to the natural resources of the moon in the form of "pieces of celestial bodies."[58] He regarded such resources as available for "utilization."[59] Szaloky considered that the *res communis* principle applied to areas and that they can be "freely used and exploited by anyone."[60] As to natural resources he stated that "by the act of separation they are endowed with a separate legal entity. In fact, following the separation they can be taken into ownership by occupation. Thus, any possible mineral resources, by developing them, may become subjects of property. They may be processed for transportation. They may be piled up for that purpose."[61] Salinas, in more restrictive vein, accepted the *res communis* principle but would have applied it to the free use by astronauts of resources in situ.[62]

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[55]Goldberg, *Treaty on Outer Space, op. cit.*, p. 21.

[56]Brooks, *op. cit.*, p. 346.

[57]*Id.*

[58]M. A. Ferrer, *Activities on Celestial Bodies Including the Exploitation of Natural Resources*, PROCEEDINGS OF THE 12TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 142 (1970).

[59]*Id.* at 146.

[60]L. Szaloky, *Activities on Celestial Bodies Including the Exploitation of Possible Natural Resources There*, PROCEEDINGS OF THE 12TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 178 (1970).

[61]*Id.* In his view exploitation under international law would require the promulgation by states of civil law rules and administrative regulations.

[62]T. Salinas, *Summary of Discussions*, PROCEEDINGS OF THE 12TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 199 (1970). This view was supported by Fernandez-Brital, *Activities on Celes-*

Opposition to the application of the *res communis* principle to the national appropriation of the natural resources of the moon was expressed by S. M. Williams of Argentina. Going beyond the provision of Article 2 of the Principles Treaty that states should not be able to appropriate the moon and celestial bodies, she rejected the *res communis* principle when put forward either by states or by private legal persons respecting both the Moon and its natural resources. An exception to the foregoing would be allowed respecting natural resources returned to earth for scientific purposes, which could not be "put into commerce."[63] Her support for the *res communis humanitatis* concept conditioned her willingness to accept the *res communis* principle. However, she held that such materials should be shared among states when brought to earth exclusively for scientific purposes.

Prior to the submission by Argentina on July 3, 1970, of the proposal that the CHM principle should apply to the natural resources of the moon and celestial bodies there had been particular support from Argentinian scholars, led by Professor A. A. Cocca, for the application of the *res communis humanitatis* concept only to the moon and celestial bodies.[64] It was the view of Ferrer that the *res communis humanitatis* concept should be applied to the moon and to celestial bodies because the acceptance of such an approach would assure their use for peaceful purposes and for the benefit of humanity.[65] Salinas also supported the *res communis humanitatis* concept and extended it to natural resources. In his view this concept would impose a duty on a state taking moon rocks into possession to share them with other states for scientific purposes.[66]

Prior to the submission by Argentina of its moon proposal to COPUOS in 1970 scholars were also debating the application of Article 2 of the Principles Treaty to the appropriation by states and by private legal persons of the natural resources of the moon and other celestial bodies. Their observations centered on the explicit prohibition against the national appropriation of the spatial areas identified as the moon and other celestial bodies. Thus, Ferrer in accepting the foregoing indicated that Article 2 did not ban "individual appropriation of portions separated" from the moon and celestial bodies.[67] He noted that, "The use of the common thing implies a kind of appropriation of

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tial Bodies, including Exploitation of Natural Resources, PROCEEDINGS OF THE 12TH COLLOQUIUM ON THE LAWS OF OUTER SPACE, p. 197 (1970).

[63]S. M. Williams, *Utilization of Meteorites and Celestial Bodies,* PROCEEDINGS OF THE 12TH COLLOQUIUM OF THE LAW ON OUTER SPACE, p. 182 (1970).

[64]A. A. Cocca, *The Principle of the "Common Heritage of All Mankind" as Applied to Natural Resources from Outer Space and Celestial Bodies,* PROCEEDINGS OF THE 16TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 174 (1974).

[65]Ferrer, *op. cit.*, p. 142 and p. 146. *Compare* S. M. Williams, *The Principle of Non-Appropriation Concerning Resources of the Moon and Celestial Bodies,* PROCEEDINGS OF THE 13TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 157 (1971).

[66]Salinas, *op. cit.*, p. 199.

[67]Ferrer, *op. cit.*, p. 146.

its fragments, so long as, according to their nature, they are susceptible of such appropriation."[68] He also observed that the prohibition against national appropriation in the sense of claiming national sovereignty did not countermand the provisions in Article 6 of the Principles Treaty allowing national exploitative activities.[69]

Williams in 1969 made the point that national appropriation of the moon and celestial bodies would violate Article 2 and supported the position advanced in 1968 by Brooks that large commercial uses of the moon's resources would constitute national appropriation.[70] However, she acknowledged the right to engage in exploitation, provided it did not constitute appropriation.[71] She pointed to the post-1967 practices of the United States and of the Soviet Union. This was viewed as having formed a customary international law allowing only states to use "in any way they may wish—provided they do not obstruct other exploring nations—all products from celestial bodies as was the case before the treaty."[72] On the basis of her distinction between appropriation and exploitation, she indicated that even large-scale exploitation of renewable resources by states would not violate Article 2. While her preference was that such exploitation should serve scientific needs, nonetheless she considered that commercial exploitation—provided it not be so excessive as to constitute appropriation—was permissible. She supported this conclusion by expressing the belief that humanity would be the beneficiary. Moreover, the state producing such benefits was to be allowed to be compensated for the services rendered.[73] In short, in 1969 she argued against national appropriation of the moon's natural resources, but favored the exploitation of such resources for both scientific and commercial purposes, provided that the commercial exploitation was generally limited. However, the exploitation of renewable natural resources could be unlimited.

Writing in 1970 Williams modified her views by indicating that the appropriation of all "space resources is fully banned" when carried out either by States or by private legal persons.[74] One exception was indicated, namely, that the "appropriation" of "non-exhaustible space resources was to be treated as permissible."[75]

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[68] *Id.* at 144.

[69] *Id.* at 145.

[70] Brooks, *op. cit.*, p. 346.

[71] Williams, PROCEEDINGS OF THE 12TH COLLOQUIUM, *op. cit.*, p. 183.

[72] *Id.*

[73] *Id.* at 183.

[74] Williams, *The Principle of Non-Appropriation Concerning Resources of the Moon and Celestial Bodies*, PROCEEDINGS OF THE 13TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 159 (1971).

[75] *Id.* at 158-159. Perhaps it was her view that the *exploitation* of such resources was permissible. However, the term used by her was "appropriation." Further, it appears that she favored such "appropriation" or "exploitation" by both private legal persons as well as by States. This view of her comments is supported by her general outlook that mankind should benefit from space activity and from her statement that the 1970 COPUOS proposal of Argentina was consistent with and an elaboration of the 1967 Principles Treaty.

In 1969 Fernandez-Brital supported the standard view that Article 2 of the 1967 Principles Treaty was a ban on national appropriation of spatial areas. He also drew a distinction between appropriation and exploitation and urged that exploitation for the sole purpose of scientific research was mandated by Article 1, paragraph 1 of the treaty. In his view when natural resources were returned to earth they should be turned over to an international agency for equitable distribution among states and for the benefit of humanity in general.[76]

Szaloky, as mentioned above, while referring to the exploitation of areas seemingly meant to include the natural resources of such areas.[77] His view that such exploitation was open to "anyone" must be read to include both private legal persons as well as states. He held that property rights might be possessed by those who had captured the natural resources of the moon and celestial bodies.[78]

Rusconi in 1969 supported the application of the CHM principle to the natural resources of the moon and other celestial bodies. Rather than constituting private property such resources, in this commentator's view, were to "belong to the whole of mankind and they are for their benefit and utility as their own property."[79] Such materials were to be a "part of a special regime of property for mankind, who will be able to use them."[80] It was foreseen by Rusconi that exploitation and use of such resources would be dependent on an international agreement providing for an international organization able to license the exploitation of such materials.

Following the promulgation by COPUOS in 1973 of a proposed Draft Treaty Relating to the Moon,[81] which contained the Soviet self-denying proposals relating to property and ownership rights to the surface or subsurface of the moon, attention was drawn to the rights of private legal persons. This was viewed by Vassilevskaya as putting "an end to the unrealistic wishes of separate individuals to somehow acquire portions of the Moon."[82] In commenting on the 1973 draft Kopal did not go so far as Vassilevskaya in suggesting that private persons should be prevented from obtaining rights to the moon or to its natural resources. It was his view that "such activities open new prospects for mankind as a whole."[83]

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[76]Fernandez-Brital, *op. cit.*, p. 198.

[77]Szaloky, *op. cit.*, p. 178.

[78]*Id.* at 178.

[79]F. G. Rusconi, *Regime of the Property of the Natural Resources of the Moon and Other Celestial Bodies,* PROCEEDINGS OF THE 12TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 186 (1970).

[80]*Id.* at 188.

[81]U.N. Doc. A/AC.105/115, April 27, 1973; 1 J. OF SPACE LAW, p. 170, No. 2 (1973).

[82]E. G. Vassilevskaya, *Legal Regulation of Activities on the Moon for the Cause of Peace and Progress,* PROCEEDINGS OF THE 15TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 178 (1973).

[83]V. Kopal, *The Development of Legal Arrangements for the Peaceful Uses of the Moon,* PROCEEDINGS OF THE 15TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 163 (1973).

Writing in 1970 Curia added her support to the view advanced by other Argentinians in support of the *res communis humanitatis* concept. She considered the concept to be applicable to both the spatial areas of the moon and celestial bodies and to their natural resources.[84] Support for the use of such natural resources on the moon and celestial bodies by cosmonauts was considered to exist in Article 5 of the 1967 Principles Treaty. She also stated that it would be lawful for such resources to be returned to earth for commercial purposes, since their earthly utilization would be for the benefit of mankind. Thus, the exploitation of such resources for both commercial and scientific purposes did not constitute a violation of the nonappropriation provision of Article 2 of the Principles Treaty.[85]

Support for the right of private legal persons to engage in commercial activities relating to natural resources came from Professor Diederiks-Verschoor in 1971. She visualized the presence of "industrial firms" owning stations situated on the moon.[86] In order to formalize the right of states to allow private parties to have legal rights in natural resources and in the product of such resources manufactured by moon laboratories she suggested the need for suitable international agreements.[87]

This review indicates that wide-ranging opinions were held by the early commentators as to the legal status of the moon and celestial bodies and their natural resources particularly as relating to their appropriation and exploitation. Some considered that such natural resources could be lawfully exploited; others viewed such activity as an unlawful appropriation. Among those who favored the legality of exploitation of resources there were some who reserved this activity to states; others considered such activity to be lawful when pursued by both states and private legal persons. Some held the view that such exploitation should be restricted to scientific activity; others considered that the exploitation might be directed to both scientific and commercial needs. In the minds of some the exploitative activity was sustainable under the *res communis* principle. Others preferred the *res communis humanitatis* approach, while at the same time taking account of the close theoretical affinity between such an approach and the emerging characteristics of the CHM principle. Other commentators rejected these legal principles and approaches and called for an analogy between exploitative activity on the continental shelf and the natural resources of the moon and other celestial bodies. Several commentators considered that the United Nations should be given governmental and proprietary rights over such resources, while others

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[84]M. T. Curia, *Legal and Doctrinary Basis of an International Agreement Concerning Natural Resources Originating in the Moon and Other Celestial Bodies,* PROCEEDINGS OF THE 13TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 155 (1971).

[85]*Id.* at 156.

[86]I. H. Diederiks-Verschoor, *Legal Aspects of Laboratories on the Moon,* PROCEEDINGS OF THE 14TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 25 (1972).

[87]*Id.*

expressed the view that there was a need to establish special international regimes to deal with such resources. These, and other, considerations were to confront COPUOS when it began to focus on official proposals for a treaty on the moon and its natural resources in 1970.

In a larger context it is relevant to observe that international law does contain specific prohibitions against certain forms of conduct, but that in the absence of such prohibitions both States and other juridical and natural persons are entitled to engage in conduct without its being described as unlawful. Since Article 2 of the Principles Treaty did not prohibit the private use and exploitation of natural resources, and since one of the purposes of Article 1 was to allow for the sharing of benefits derived from the exploration and use of the space environment, it may be concluded that private persons were in effect encouraged to engage in private space activities. Such conduct would fit into the expectations fortified by the *res communis* concept in its joint application to the conduct of States, international organizations, and private natural and juridical persons. The absence of any prohibition on the private use and exploitation of the natural resources of the moon and other celestial bodies in the Principles Treaty must, therefore, allow such space activity to take place, unless such activity is prohibited under other norms of international law. None appear to exist.

The terms of Article 2 of the Principles Treaty restrict only national appropriation of spatial areas. Thus, to the extent that states, pursuant to Article 6 of that Treaty, authorize private legal persons to engage in exploitative activity regarding the natural resources of such spatial areas, such private activity would be permissible under both municipal laws and international law. If the drafters of the Principles Treaty had wished to bar the exploitation of the natural resources of the moon and other celestial bodies by private legal persons, or if they had wished to prevent the acquiring of private property rights in such materials, they could have done so. The fact that such rights to exploit and to establish property rights in such natural resources were not specifically granted to private persons cannot serve to deny such claims when they are put forward. Nonetheless, in the search for legal security it is always preferable to have reliance on specific grants of authority. This fact influenced the governments holding membership in COPUOS to begin the preparation of an international agreement on this subject in 1970.

The Emergence of Concerns for Mankind

By 1970 there was increasing evidence that states must view their long-range political-legal options from the perspective of an existing world community. This concept of world relations can be questioned by those whose perceptions are of a world arena in which a considerably greater latitude is thought to exist for states as they engage in their search for national self-interest. Nonetheless, it is abundantly evident that in today's world the most powerful cannot proceed as they may wish without consulting the outlooks of other States. A too heavy reliance on certain national-interest policies may be

counterproductive and regrettably myoptic in the presence of the need for all states to share in the effective management of world affairs. This includes the formation of world regimes, including one dealing with the moon and its natural resources, designed to serve the needs, wants, interests, and values of mankind at large.

It was in this general context that Ambassador Lodge told the United Nations on September 2, 1958, that the goal of the United States was that "outer space will be used solely for the benefit of all mankind." In so doing he was reflecting President Eisenhower's policy statement in which he called upon states "to promote the peaceful use of space and to utilize the new knowledge obtainable from space science and technology for the benefit of mankind."[88] This outlook was quickly incorporated into early General Assembly resolutions. Thus, Resolution 1348 of December 13, 1958, Resolution 1472 of December 12, 1959, and Resolution 1721 of December 20, 1961, proclaimed that the space environment was to be used in the "common interest of mankind" and for the "betterment of mankind."[89] Because of this background it was possible to provide in Article 1 of the 1967 Principles Treaty that "[t]he exploration and use of outer space including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind."[90] In testifying before the Senate Committee on Foreign Relations in connection with the meaning attributed by the negotiators to the term "province of all mankind" Ambassador Goldberg stated that the U.S. policy relating to the use of the space environment had been fixed in the 1958 National Aeronautics and Space Act, section 102 (a). It provided that "activities in space should be devoted to peaceful purposes for the benefit of all mankind."[91] He further stated that "[w]e did not believe that the language is any different 'for the benefit of mankind,' and 'the province of all mankind.' "[92] The negotiators reviewed with care the accep-

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[88] *Introduction to Outer Space, An Explanatory Statement by the President's Science Advisory Committee,* p. 1 (1958).

[89] These and illustrations drawn from other space environment documents, human rights documents, law of the sea documents, and the 1959 Antarctica Treaty are collected in C. Q. Christol, *The Legal Common Heritage of Mankind: Capturing an Illusive Concept and Applying it to World Needs,* PROCEEDINGS OF THE 18TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 42 (1976). *Compare* E. Fasan, *The Meaning of the Term "Mankind" in Space Legal Language,* 2 J. OF SPACE LAW, p. 125, No. 2 (Fall 1974); N. M. Matte, *The Draft Treaty on the Moon, Eight Years Later,* 3 ANNALS OF AIR AND SPACE LAW/ANNALES DE DROIT AERIEN ET SPATIAL, p. 531 (1978); S. B. Rosenfield, *Solar Energy and "The Common Heritage of Mankind,* PROCEEDINGS OF THE 21ST COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 58 (1979); S. B. Rosenfield, *Article XI of the Draft Moon Treaty,* PROCEEDINGS OF THE 22ND COLLOQUIUM ON THE LAW OF OUTER SPACE, in print (1980); E. R. Finch, Jr., *1979 United Nations Moon Treaty Encourages Lunar Mining and Space Development, Id.*; and E. R. Finch, Jr., *In Favor of the Moon Treaty,* L-5 NEWS, Vol. 4, No. 11, p. 7 (November 1979).

[90] 18 U.S.T. 2410; T.I.A.S. No. 6347; 610 U.N.T.S. 205.

[91] Pub. L. No. 85-568, 72 Stat. 426.

[92] Goldberg, "Treaty on Outer Space," *op. cit.,* p. 56.

tance of the term "province," and, at the instance of the United States, it was accepted as being the equivalent of "benefit of all mankind."[93] The choice was influenced by a "discussion of various languages," and it was treated substantively as "a freedom-of-the-seas provision."[94] The freedom of the seas principle treats the resources of the seas as *res communis,* i.e., it allows for the general exploitation of such resources on an inclusive basis. This means that exclusive property rights may not be established relating to the spatial area and to the natural resources located therein. It is totally opposed to the concept of "patrimony" in the Latin American context of exclusive property rights.

In Ambassador Goldberg's view Article 2 of the Principles Treaty was complementary to the province of mankind provisions in Article 1. In his testimony he observed that Article 2 "is a statement that outer space is not subject to national appropriation by means of sovereignty, by means of use or occupation or by any other means, which means that outer space is the province of mankind."[95]

It is now well-established that Article 1 and other articles allow for the free exploration and use of the space environment, and that such space activities are to serve the general benefits of all mankind. Lest the foregoing meaning of Article 1 be misconstrued the Committee on Foreign Relations attached an understanding respecting it which provided that "nothing in Article 1, Paragraph 1 of the Treaty diminishes or alters the right of the United States to determine how it shares the benefits and results of its space activities."[96]

The CHM principle, which has been influenced in its development by the "benefit of mankind," "province of all mankind," and *res communis humanitatis* concepts, received worldwide attention in 1967 when Ambassador Arvid Pardo, the representative of Malta to the United Nations, suggested its applicability to certain ocean areas. This proposal received very broad support with the adoption of General Assembly Resolution 2749 (XXV) on December 17, 1970, with 108 States, including the United States, voting for it, with none opposing, and 14 abstaining. Article 1 of that Declaration provided that "The sea-bed and ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction (hereinafter referred to as the area), as well as the resources of the area, are the common heritage of mankind." With the acceptance of the concept in the several negotiating texts produced by the Third U.N. Conference on the Law of the Sea from 1976 to the present the status of CHM has moved well beyond an abstract concept.[97] It now appears

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[93] *Id.* at 69-70.

[94] *Id.* at 70.

[95] *Id.* at 21.

[96] Executive Report No. 8 to Accompany Ex. D., U.S. Senate, 90th Cong., 1st Sess., p. 4 (1967).

[97] The respective drafts of the Law of the Sea Treaty have provided that "the Area and its resources are the common heritage of mankind." The most recent draft is contained in the "Informal Composite Negotiating Text/Revision 1," U.N. Doc. A/CONF.62/WP.10/Rev. 1,

that it will become a firmly established principle of the international law of the sea.

With its acceptance in Articles 11 and 18 of the 1979 Moon Treaty the principle has applicability to the moon and to its natural resources as particularly defined in that agreement. Article 1 prescribes that the treaty terms relating to the moon "shall also apply to other celestial bodies within the solar system, other than the earth, except insofar as specific legal norms enter into force with respect to any of these celestial bodies."[98] Moreover, "reference to the Moon shall include orbits around or other trajectories to or around it."[99] Article 18 specifically refers to the CHM as a "principle."

The Underlying Premises of the CHM Principle

As noted above, a legal principle is a starting point for legal reasoning. It is not the function of a principle to provide specific and detailed consequence-laden requirements. That is the function of rules, and these most frequently emerge as the principle is applied to practical situations. Nonetheless, those who are asked to accept a principle having application to their needs, wants, interests, and values require some understanding and assurance as to the direction which may be taken by such principles. During the period while the Moon Treaty has been under negotiation agreement continued to build as to the meaning of CHM. All the elements of the concept, as it reached the status of a principle, have application to the exploration and use, including exploitation, of identifiable natural resources.

The CHM legal principle has its most immediate and prospective application in the area of the exploration and use, including exploitation, of natural resources. Intangible natural resources include the broadcast spectra, orbital positions, and scientific information. Tangible resources include moon rocks and other minerals and materials situated on the moon or other celestial bodies within the solar system, other than the earth.

The CHM principle has notable characteristics. First, it is an enlargement of the traditional international legal principle of *res communis*; thereby rejecting the *res nullius* perspective. As such it is just the opposite of the exclusive private property-public sovereignty principle respecting natural resources in their natural condition, e.g., prior to permissible capture, or use, and exploitation. Second, the principle seeks to benefit mankind generally by

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April 28, 1979; 18 *Int'l Legal Materials* 686 (May 1979). Unlike the Moon Treaty the Law of the Sea Draft Treaty does not define the spatial area within which the principle is to be applicable. The world tendency to identify common resources as appertaining to the service of "all humanity" is also reflected in the preamble to the 1971 INTELSAT Agreement. 23 U.S.T. 3813, T.I.A.S. No. 7532.

[98] U.N. Doc. A/34/20 (1979).

[99] *Id.*

protecting the physical environment against unnecessary degradation. Third, it endeavors to conserve the world's resources for present and future generations.[100] Fourth, it seeks through agreement to achieve the goal of equitable allocation of such resources and benefits with particular attention to the needs of the less-developed countries. This is the essence of the *res communis humanitatus* concept. Fifth, it contemplates the presence or formation of an international regime containing such rules as may be necessary to insure the realization of the previously identified objectives. If it were to become apparent that a formal governing structure were required to provide for a normal and structured utilization of the spatial area and its resources, including, for example, processes for the resolution of disputes, it may be anticipated that the legal regime would lead to the establishment of a suitable international intergovernmental governing body.[101]

It must be borne in mind that the CHM principle is the product of a worldwide awareness of the fact that natural resources are being rapidly depleted. When the natural distribution of resources was made by nature not all states and peoples received an equal share of such resources. Thus, there are substantial political and economic forces at work in support of the distributive aspects of the CHM principle. Realism must also take into account the fact that scientific and technological competences are not equally shared among states, that military capabilities are very disparate, that there are wide ranges in the respective capacities of states to regulate their own affairs, and that the demands of some of the less-developed states for a larger sharing in the world's resources and benefits are abrasively strident.

Further, it has been perceived that all human beings are members of the human race no matter whether they live in the "North" or the "South," whether their loyalties are given to technologically advanced or disadvantaged states, and whether their ideologies support the cause of freedom or

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[100]In commenting on the 1973 COPUOS draft Vassilevskaya noted that it contained a new proposal providing that "due regard to the interests of present and future generations should be taken into account." Vassilevskaya, *op. cit.*, p. 178 (1973). In commenting on the 1973 draft Kopal also pointed out the presence of the provision in Article 4 referring to the interests of present and future generations. Kopal, *op. cit.*, p. 156. While observing that the square-bracketed provisions of Article 10 of the draft called for the natural resources of the moon to be treated as the CHM, he considered that "countries conducting expensive explorations of those areas must be allowed to use reasonable quantities of resources on the spot for different needs of their exploration activities." *Id.*, p. 163. His observation focused on the practical probability that states would be able to engage in such exploitative conduct.

[101]C. Q. Christol, *Large Space Systems: Problems and Prospects,* PROCEEDINGS, 22d COLLOQUIUM ON OUTER SPACE LAW 275 (1980); *see also* A. A. Cocca, *The Principle of the "Common Heritage of all Mankind" as Applied to Natural Resources from Outer Space and Celestial Bodies, op. cit.*, p. 175; M. E. Picarel, *Algunas Consideraciones sobre el Producto Lunar,* PROCEEDINGS OF THE 12TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 189 (1970). It has been suggested that the CHM principle also contains those assurances set out in the 1959 Antarctic Treaty and the 1967 Principles Treaty relating to the communication of information. G. Wolff, *Le Projet de Traite sur la Lune: Sa Place dans l'Evolution du Droit International Public,* PROCEEDINGS OF THE 16TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 205 (1974).

statism. Many of the advanced states, for example, have cooperated to ameliorate the pressing burdens of poverty in the LDCs, through what is known as development assistance. This has its foundations in moral concerns, since the history of mankind has been based on the proposition that the rich and powerful possess a moral obligation to aid those less favorably endowed. The sense of sharing has come to be considered as a precurser of a global fairness revolution. The CHM principle has been influenced by such considerations. It would be worse than blind to attempt to avoid the impact of such considerations as these when it comes to a meaningful appraisal of the CHM provisions of the Moon Treaty.

Article 11, paragraph 1, following acceptance that "The Moon and its natural resources are the common heritage of mankind," provides that "its expression" is to be found "in the provisions of this Agreement and in particular paragraph 5 of this article."[102] Paragraph 5 provides:

> 5. States Parties to this Agreement hereby undertake to establish an international regime, including appropriate procedures, to govern the exploitation of the natural resources of the Moon as such exploitation is about to become feasible. This provision shall be implemented in accordance with Article XVIII of this Agreement.[103]

Reference is made in Article 11, paragraph 7, to the main purposes of the international regime to be established to facilitate and govern the exploitation of the moon's natural resources at such time as such exploitation is about to become feasible. Such main purposes, pursuant to paragraph 7, are:

> (a) The orderly and safe development of the natural resources of the moon;
> (b) The rational management of those resources;
> (c) The expansion of opportunities in the use of those resources;
> (d) An equitable sharing by all states parties in the benefits derived from those resources, whereby the interests and needs of the developing countries as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the moon shall be given special consideration.[104]

These specifically identified criteria for the application of the CHM principle to the exploitation of the moon's natural resources are wholly compatible with the CHM concepts that have been growing since the late 1950s. The

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[102]U.N. Doc. A/34/20 (1979).

[103]Article 18 contemplates the revision of the treaty. It articulates procedures, and provides that "a review conference shall consider the question of the implementation of the provisions of Article XI, paragraph 5, on the basis of the principle referred to in paragraph 1 of that article and taking into account in particular any relevant technological developments."

[104]Critical of this effort has been Leigh S. Ratiner in testimony before the Subcommittee on Space Science and Applications of the Committee on Science and Technology, U.S. House of Representatives (September 6, 1979). [Cited hereafter as Ratiner, Statement]. He told the Subcommittee that "one marvels at the arrogance of those who would even feel qualified to subject such vastness beyond our understanding and reach to an elaborate legal regime governing future generations' needs and patterns of growth." Statement, p. 2. However, since 1959 the United Nations has demonstrated that the space environment is to be used to benefit the needs of earthbound humanity. United Nations Ad Hoc Committee on Peaceful Uses of Outer Space, *Report to the General Assembly*, U.N. Doc. A/4141, July 14, 1959.

specific focus given to the CHM principle in the Moon Treaty squares with the fact that neither states nor private persons can avoid the fact that all live in an increasingly interdependent world. The CHM principle, as a reflection of high principles of justice and equity, is a political-legal response to the world's unequal distribution of resources and human capabilities. It can facilitate the hope for a sharing of resources. In its ultimate sense the CHM principle provides guidance in effecting an orderly and equitable distribution of resources so that a measure of global fairness may be realized. The CHM principle does not impact upon preferences as to forms and means of economic organization and production. More specifically the CHM principle cannot reasonably be considered to be in opposition to the free-enterprise system of economic and political relationships. Both the free-enterprise and the socialist states will be able to live very comfortably with the CHM principle. This result is assured by the provision of Article 11, paragraph 7 (d) which prescribes that as much special consideration is to be accorded to those countries "which have contributed either directly or indirectly to the exploration of the Moon" as is to be given to the developing countries.

Pursuant to the terms of the Moon Treaty states following the free-enterprise system will be beneficially served by the CHM principle. The principle will allow for the orderly exploitation of the natural resources of the moon. This will allow all economic systems to have access to resources and to derive the benefits flowing from the existence of an understandable legal regime and prospective governmental structure. As is true with the general exploitation of resources the practical requirements imposed by the need for moon resources will ensure the development of a legal regime based on the mutual self-interest of all concerned.

The Evolution of the CHM Principle and the Moon Treaty

In order to understand the debate concerning the exploitability of the moon and its natural resources it is necessary to understand the relevant differences between sovereignty, jurisdiction, and property. There is the further need to understand the relationship between public sovereignty and private ownership and use. A failure to make certain basic distinctions may produce confusion as to the utility of the CHM principle.[105]

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[105] *See, for example,* the Ratiner statement. *Id. See also* Arthur M. Dula, *Free Enterprise and the Proposed Moon Treaty, Part I,* L-5 NEWS, Vol. 4, No. 10, p. 1 (October 1979). For example, Ratiner refers to such terms as "for the benefit and in the interests of all countries," "sovereignty," and "property" as contained in the 1967 Principles Treaty and in the Moon Treaty as "catch-phrases." Statement, *op. cit.,* p. 5, fn. His lengthy testimony is given over almost entirely to an assessment of issues before the Third U.N. Conference on the Law of the Sea from the perspective that texts emerging from that conference would result in "special discrimination" against the advanced states. *Id.* at p. 8. For a perceptive assessment of the Ratiner statement see W. J. Broad, *Earthlings at Odds over Moon Treaty,* 205 SCIENCE, p. 915 (November 23, 1979).

In international law the principle of sovereignty in its most basic sense allows a State to exercise ultimate authority in a spatial area. Article 2 of the Principles Treaty denies the presence of national sovereignty in, or national appropriation of, the space environment consisting of outer space per se, the moon, and other celestial bodies. Under international law the several principles of jurisdiction allow a state to exercise authority over persons and events located both within and outside of the areas in which a state possesses national sovereignty.[106]

In assessing the meaning of the 1979 Moon Treaty it must be remembered that the 1967 Principles Treaty placed heavy emphasis on freedom for the exploration and use of the space environment. In the years since 1967 the earlier interest in acquiring scientific data has been replaced by an era of practical applications in which the worth of space resources has been particularly identified and where there has been a resultant need to arrive at international agreements providing for the orderly exploitation of such resources. As expectations relating to exploitation were facilitated by scientific successes, the need for the development of legal controls became apparent. Such forces as these have impelled members of COPUOS to agree upon the terms of the Moon Treaty.

Considerations such as these induced Argentina on July 3, 1970, to submit to COPUOS a "Draft Agreement on the Principles Governing Activities in the Use of Natural Resources of the Moon and other Celestial Bodies." In Article 1, Argentina made the initial proposal for the application of the CHM principle only to the natural resources of the moon and other celestial bodies, as opposed to the moon and celestial bodies, per se. The article stated: "The natural resources of the Moon and other celestial bodies shall be the common heritage of all mankind."[107] In Article 2, it was suggested that "[a]ll substances originating in the Moon or other celestial bodies shall be regarded as natural resources."[108] However, on March 30, 1973, Argentina submitted a revised and much enlarged proposal reading "[t]he moon and other celestial bodies and their natural resources shall be the common heritage of all mankind."[109]

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[106]These principles are characterized by territorial, nationality, universality, protective, and passive personality considerations.

[107]U.N. Doc. A/AC.105/C.2/L.71 and Corr. 1; U.N. Doc. A/AC.105/85, Annex 2, p. 1.

[108]*Id.* This Argentinian initiative was described by Professor A. A. Cocca in *Legal Status of the Natural Resources of the Moon and Other Celestial Boones,* PROCEEDINGS OF THE 13TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 146 (1971).

[109]U.N. Doc. A/AC.105/101, p. 6, May 11, 1972; U.N. Doc. A/AC.105/196, Annex 1, p. 13, April 11, 1977. At the 1973 meeting of the International Institute of Space Law a number of experts reviewed the status of the draft Moon Treaty. Their articles are published in the PROCEEDINGS OF THE 16TH COLLOQUIUM ON THE LAW OF OUTER SPACE: S. Gorove, *Property Rights in Outer Space: Focus on the Proposed Moon Treaty,* p. 177; V. Kopal, *Legal Questions Relating to the Draft Treaty Concerning the Moon,* p. 180; F. Rusconi and C. Paz-Perina, *Proyecto de Tratado Relativo a la Luna Usos Pacificos y Desarme: Dos Aspectos de una Misma Realidad,* p. 190; L. Szaloky, *The Way of the Further Perfection on the Legal Regulation Concerning the*

In the meantime on May 21, 1971, the Soviet Union submitted to the U.N. a proposed "Treaty Concerning the Moon."[110] This proposal made no reference to the CHM concept. Further, it did not mention the terms of Article 2 of the 1967 Principles Treaty which prohibited national appropriation of the space environment. More specifically, the Soviet proposal did not reject the existing prohibition against public sovereignty in the space environment. The Soviet proposal, however, accepted the generally held view that the space environment was a *res communis* area. The Soviets focused their attention on the surface and subsoil of the moon. As to this they sought to prevent the existence of property rights and ownership. They specifically proposed that private property rights could not be established on "the surface or subsoil of the Moon." Thus, Article 8 provided:

> (1) Neither States, international intergovernmental or non-governmental organizations and national organizations having the status of juridical persons or not, nor natural persons, may claim the surface or subsoil of the Moon as their property. The emplacement of vehicles or equipment on the surface of the Moon or in the subsoil thereof, including the construction of installations integrally connected with the surface or subsoil of the Moon, shall not create a right of ownership over portions of the surface or subsoil of the Moon.[111]

In keeping with their focus on the absence of private property rights relating to the surface or subsoil of the moon the Soviet draft, in Article 8, paragraph 2, proposed that such areas could not become objects of legitimate transfer because of the nonexistence of property rights. The Soviet proposal was limited to tangible surface or subsoil areas.

The Soviet proposal was explained by Zhukov in 1971. He stated that while states, international organizations, national organizations, and other legal persons could explore and use the moon and its natural resources, such activity "does not create a right of ownership over the Moon, or over areas of the surface or its subsoil."[112] He indicated that the proposal was intended to elaborate and define further the terms of the Principles and Astronauts Treaties, including the prohibiting of military uses on the moon, advancing the interests of peace, and serving the whole of mankind.

Upon analysis it is clear that the Soviet position was a self-denying one. By supporting the *res communis* principle, and by specifically urging that private property or ownership rights might not be acquired in the surface or subsoil of the moon, the Soviets were in fact accepting a part of a fundamental element of the more wide-ranging CHM principle identified above. Their

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Moon and Other Celestial Bodies, Especially Regarding the Exploitation of Natural Resources of the Moon and Other Celestial Bodies, p. 196.

[110]U.N. Doc. A/8391, June 4, 1971.

[111]*Id.* at 4. This proposal with important changes became Article 11, paragraph 3 of the 1979 Moon Treaty.

[112]G. Zhukov, *The Legal Regime for the Moon (Problems and Prospects),* PROCEEDINGS OF THE 14TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 50 (1972).

1971 proposal cannot be interpreted as being in total opposition to the CHM principle. The Soviet self-denying proposal did not seek to prevent the gathering and use by space-resource states or their nationals of resources existing on the moon and celestial bodies, which is allowable pursuant to the Principles Treaty.

Following the 1970 proposal of Argentina and that of the Soviet Union in 1971 the United States on April 13, 1972, submitted a working paper to the Working Group of COPUOS accepting the Argentinian CHM formulation in its original form, namely, that "the natural resources of the moon and other celestial bodies shall be the common heritage of all mankind."[113] This formulation was not consistent with General Assembly Resolution 2749 (XXV) of December 17, 1970, which had been supported by the United States and by the Soviet Union. The latter applied the CHM principle to both the resources of the area and to the area consisting of the seabed and ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction. Further, the law of the sea resolution used the present tense "are" rather than "shall be."

The move for a more extensive application of the CHM concept to both the moon and other celestial bodies and to their natural resources was initiated by Egypt and India on April 14, 1972.[114] On April 17, 1972, the United States submitted a new working paper in which it repeated its proposal of April 13 relating to the treatment of the natural resources of the moon and other celestial bodies as CHM. However, it introduced a provision looking toward the reality of "the need for economic advancement and for the encouragement of investment and efficient development if there were to be a use of the resources of the Moon and celestial bodies."[115] Thus, the United States proposed a future conference at a time proximate to the practical utilization of such resources. The purpose of such a conference would be to negotiate an "arrangement for the international sharing of the benefits of such utilization."[116] This proposal was later to find acceptance in Articles 11, paragraph 5, and 18 of the Moon Treaty.

When the Working Group met in 1973 the government of India suggested a reformulation of the unagreed to 1972 Article 10 on natural resources. Thus, India proposed a new paragraph 1 of Article 10 to read, "The moon and other celestial bodies, their subsoil as well as their resources, are the common heritage of mankind."[117] On March 28, 1973, Iran urged a redrafting of a

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[113]U.N. Doc. A/AC.105/C.2(XI)/Working paper 12, U.N. Doc. A/AC.105/196, Annex 1, p. 23, April 11, 1977.

[114]U.N. Doc. A/AC.105/C.2(XI)/Working paper, U.N. Doc. A/AC.105/196, Annex 1, p. 23, April 11, 1977.

[115]*Id.* at 23-24.

[116]*Id.*

[117]U.N. Doc. A/AC.105/101, p. 6, May 11, 1972; U.N. Doc. A/AC.105/196, Annex 1, p. 10, April 11, 1977.

preambular part of the draft treaty so as to provide that the moon, as a natural satellite of the Earth, "constitutes a common heritage of mankind."[118]

On March 28, 1973 the Soviet Union submitted a lengthy working paper in which the CHM principle was critically assessed.[119] The working paper asserted that the concept of "heritage" was merely a philosophical expression and could not be found in the substance of Soviet civil law. Moreover, it was argued that only those elements of civil law accepted by the U.S.S.R. could become a part of international public law. Consequently, the CHM principle was rejected, since it had its source in the civil law concepts of "inheritance" and "succession." This dubious and highly mechanistic approach may be contrasted with the Soviet willingness to accept the "province of all mankind" principle. It was their view that the "province of all mankind" principle meant that "celestial bodies are available for the undivided and common use of all States on Earth, but are not jointly owned by them."[120] The "province of all mankind" principle was accepted without regard for its derivation in municipal law or otherwise. It was characterized from the Soviet perspective as a part of international public law, since it was set forth in the 1967 Principles Treaty.

The working paper also identified the Soviet view of "ownership," which was described as "the possession of a thing and the use of it."[121] The argument was made that since "ownership" or "property" were a matter of civil law it was possible to "confirm" their presence in international law by means of a "universal recognition of the corresponding parts of the civil law of States in respect of property rights over specific things."[122]

Thus, the Soviet Union indicated that it was willing merely to consider the application of the common province of all mankind "concept" in the proposed Moon Treaty. It rejected the CHM principle in 1973. This official position was mirrored in the subsequent writings of Soviet commentators, who as late as 1977 offered "fierce resistance" to the CHM principle.[123] Thus, writing in 1977 the Soviet commentator Dekanazov consistently urged that it would be erroneous to extend civil law concepts bearing on the meaning of CHM to interstate relations. He stated that "[u]nder the circumstances it is ungrounded to speak of the common heritage of mankind as a principle of contemporary international law, and therefore, any mention of common heritage as a principle in the Treaty is, to my mind, unacceptable."[124] In his

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[118]*Id.* at 11.

[119]U.N. Doc. A/AC.105/196, Annex 1, p. 11, April 11, 1977.

[120]*Id.* at 12. This position agreed with that of Ambassador Goldberg in his testimony on the Principles Treaty. Goldberg, *Treaty on Outer Space, op. cit.*, p. 56.

[121]U.N. Doc. A/AC.105/196, Annex 1, p. 12, 11 April 1977.

[122]*Id.*

[123]N. M. Matte, *Draft Treaty on the Moon Eight Years Later, op. cit.*, p. 531 (1978).

[124]R. V. Dekanozov, *Draft Treaty Relating to the Moon and the Legal Status of its Natural Resources*, PROCEEDINGS OF THE 20TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 198 (1978).

assessment Dekanozov considered the content of CHM to be the same for ocean space and the space environment. Dekanozov had previously urged that the CHM "conception is untenable from the legal point of view. It uses civil law categories in an arbitrary eclectic fashion without any regard for established legal realities and brings to mind undesirable associations . . ." like the *res omnium communis* "notion" which had been "transferred from the Roman private law into the field of international relations."[125] Thus, for the seabed and the subsoil thereof beyond national jurisdiction, for the ocean and its superjacent airspace, for Antarctica and its airspace, and for the moon and other uninhabited celestial bodies, he stated a preference for the term "an international area (space) for common use."[126] His objection extended to the CHM principle, to its application to both the spatial area of the moon and to its natural resources, and to the linking of the CHM principle to both the moon and to its natural resources in a single article of the Moon Treaty.[127] With the anticipated acceptance of the CHM principle in the Moon Treaty, instead of his plea for "an international area for common use," he urged that the CHM principle be "interpreted restrictively."[128] This would be consistent, in his view, with the prohibition contained in Article 2 of the Principles Treaty, and would allow for the exploitation of the natural resources of the moon "in a manner compatible with the objectives of an international regime to be established."[129] Initial Soviet opposition to the CHM principle, which was considered to be closely "connected with the right of property, possession, and disposition of a thing,"[130] was based on an unwillingness to introduce concepts founded in civil law into international law. Further, there was an unwillingness to "justify the attempts to consider identical legal problems of the Moon with those of the sea bottom resources because in many cases they greatly differ and each of them requires a different approach."[131] It was also considered that "the conception of 'common heritage' suggested by Latin American authors and taken by them from maritime law is a serious hindrance to the preparation of the Treaty on the Moon at present."[132]

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[125]Dekanozov, *Relationship between the Status of Outer Space and the Statuses of Areas Withdrawn from State Sovereignty,* PROCEEDINGS OF THE 16TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 10 (1974).

[126]*Id.*

[127]Dekanozov, *Juridical Nature of Outer Space Including the Moon and Other Celestial Bodies,* PROCEEDINGS OF THE 17TH COLLOQUIUM OF THE LAW OF OUTER SPACE, pp. 200-207 (1975); Dekanozov, *Draft Treaty Relating to the Moon and the Legal Status of its Natural Resources,* PROCEEDINGS OF THE 20TH COLLOQUIUM ON THE LAW OF OUTER SPACE, pp. 197-200 (1978).

[128]*Id.* at 199.

[129]*Id.* at 198.

[130]E. G. Vassilovskaya, *Legal Problems of the Exploration of the Moon and Other Planets,* PROCEEDINGS OF THE 16TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 170 (1974).

[131]*Id.*

[132]E. G. Vassilovskaya, *Drawing up a Draft Treaty on the Moon—A Further Contribution to the Progressive Development of International Space Law,* PROCEEDINGS OF THE 19TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 101 (1977).

In response to the March 28, 1973, Soviet position as to the meaning of the CHM principle Argentina submitted a working paper on March 30, 1973.[133] It advanced the proposal previously favored by Egypt and India that "[t]he Moon and other celestial bodies and their natural resources shall be the common heritage of all mankind." This replaced the more limited scope submitted in the Bulgarian working paper, which contained the text of a draft treaty consisting of a preamble and 21 articles, based on the text formulated by the Legal Subcommittee during its pre-1973 sessions, together with certain changes and amendments. The earlier text would have merely prescribed that "[t]he natural resources of the Moon and other celestial bodies shall be the common heritage of all mankind."[134]

On April 3, 1973, Italy submitted a five-paragraph draft article on natural resources which called for the establishment of an international regime "when such exploitation will become technically feasible." The formation of such a regime was to be "on the basis of the principle that the natural resources of the Moon are the common heritage of mankind."[135]

This was followed by a second working paper of Argentina dated April 17, 1973.[136] Argentina sought to reduce Soviet concerns that the term "heritage" was essentially philosophical in nature by pointing out that the Spanish equivalent was *patrimonio* and that had been used in modern international law to refer to the "patrimonial sea," namely, territorial waters. The Soviet position on the relationship between the CHM principle and that of "succession" was also addressed by Argentina. In its view, succession, as related to inheritance, was analytically consistent with the root of the concept of inheritance, e.g., heritage. Thus, according to Argentina, the whole substantive field of international law relating to state succession was available for guidance as to the meaning of heritage.

Argentina endeavored to clarify for the Soviets the relationship between succession and property. Thus, it was pointed out that there were at least two approaches to the concept of property, namely, ownership rights in property as represented in eminent domain and also the property aspect of the enjoyment, receipt of the fruits, and profits derivable through ownership. The Argentinian assessment identified this phase of property as falling within the domain of beneficial ownership. Further, according to Argentina:

> What is one to call this community of ownership, this conjunction of profits, this joint receipt of fruits and products—in a word, this common property of the moon? There is no need to create anything new. The idea of heritage—which can even be intangible—has existed since olden times, and it resolves the issue without major difficulty. Moreover, international law has always recognized, in addition to sovereignty, a right of ownership on the part of States, which is no different from the concept of ownership under general law.[137]

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[133]U.N. Doc. 105/196, Annex 1, p. 13, April 11, 1977.

[134]U.N. Doc. A/AC.105/115, Annex 1, pp. 11-20 27 April 1973; U. N. Doc. A/AC.105/133, p. 5, June 6, 1974.

[135]U.N. Doc. A/AC.105/196, Annex 1, p. 18, April 11, 1977.

[136]U.N. Doc. A/AC.105/196, Annex 1, p. 14, April 11, 1977.

[137]*Id.* at 15.

Argentina indicated that the CHM principle took into account the expectation that economic profits would be realized, that there would be an equitable sharing of such profits, that the needs of the LDCs would be taken into account in the sharing of profits, that this would necessitate the formation of a suitable international legal regime, and that this might lead to the creation of either international machinery or an international authority to give effect to such expectations. It was pointedly observed that the CHM principle had been accepted as it applied to the ocean in General Assembly Resolution 2749 (XXV) without a dissenting vote. This was construed as "definite proof of the existence of this legal viewpoint common to all States, entirely irrespective of their special internal features, their philosophical ideas or their policies."[138]

On April 17, 1973, the United States submitted a very specific working paper concerning the right to the natural resources of the moon and other celestial bodies. It gave support to the 1971 Soviet proposal insofar as it had provided that neither the surface or subsoil could be claimed as property. Thus, the United States suggested that:

> Neither the surface nor the subsurface of the Moon or other celestial bodies, nor any area thereof or natural resources *in place,* shall become the property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or any natural person.[139] (Italics added)

In commenting on the prospect for the utilization of lunar and planetary natural resources in the future, while taking into account the prohibition suggested by the United States in 1973, the General Counsel for NASA, Mr. S. N. Hosenball, stated that the United States did "not disagree with the basic principle that all nations should share in the benefits that would accrue when it becomes commercially feasible to obtain natural resources from the Moon or other celestial bodies."[140] At this time in the negotiations some

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[138]*Id.* at 16. For an assessment of the Argentinian response to the Soviet interpretation of the CHM principle see A. A. Cocca, *The Principle of the "Common Heritage of All Mankind" as Applied to Natural Resources from Outer Space and Celestial Bodies,* PROCEEDINGS OF THE 16TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 172 (1974).

[139]U.N. Doc. A/AC.105/196, Annex 1, pp. 16-17, 11 April 1977. This proposal, with modest drafting changes, became the first sentence of Article 11, paragraph 3, of the Moon Treaty. The terms of paragraph 3, insofar as they make a distinction between *in place* and *not-in-place* resources, can be traced back to the 1970 Argentinian draft agreement. Article 3 of that draft provided that "The legal system applicable to natural resources used in their place of origin shall be distinct from that applicable to those brought to the Earth for use." U.N. Doc. A/AC.105/C.2/L.71 and Corr. 1.; U.N. Doc. A/AC.105/196, Annex 1, p. 21, April 11, 1977. Support for such a distinction can be found in the existence of different legal regimes for resources lying beyond national jurisdiction and those within national territories. A. A. Cocca, *Legal Status of the Natural Resources of the Moon and Other Celestial Bodies,* PROCEEDINGS OF THE 13TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 148 (1971).

[140]S. N. Hosenball, *Current Issues of Space Law Before the United Nations,* 2 J. SPACE LAW, p. 9, No. 1 (Spring 1974).

states had urged that a moratorium should be placed on the exploration, use, and exploitation of such natural resources. This view—advanced by the LDCs—would have prevented exploitative activity until an agreement might be reached on the allocation of benefits to the LDCs. In indicating the opposition of the United States to such a moratorium he stated that its net effect would be "to destroy any incentive for the development of the technology, either for use experimentally or for its mass production."[141]

The 1973 U.S. proposal, by excluding property rights only of "natural resources in place," naturally would allow for the existence of property rights for such natural resources not in place or when removed from the original place. That such natural resources were not to be left forever in place was reflected in the Argentinian working paper of March 30, 1973, which stated that "[t]he utilization and development *in situ* of the natural resources of the Moon and other celestial bodies, provided that they are undertaken in conformity with this Treaty, shall be lawful. . . ."[142] During the negotiations of the Moon Treaty many states supported the view that the moon's natural resources in the form of rocks and minerals would be returned to earth.[143] This right was assured in Article 6, paragraph 2 and in Article 11 of the Moon Treaty. Such moon minerals have been characterized as constituting "both an economic, and, in addition, a scientific resource."[144] The United States also suggested the formation of an international regime to govern the exploitation of the natural resources of the moon and other celestial bodies when "such exploitation becomes feasible."[145] Of great importance, the United States suggested that the proposals of other states denying the creation of ownership rights should be without prejudice to the proposed international regime. Further, such suggested prohibitions on ownership were not to prejudice the "exploitation of the natural resources of the Moon or other celestial bodies pending the establishment of such a regime."[146]

In the 1973 COPUOS debates the United States indicated that its adoption of the CHM principle did not constitute either an express or implied prohibition on the use and exploitation of the natural resources of the moon or other celestial bodies. The United States contemplated a future international conference at which time it would be agreed that suitable world processes would be identified for the distribution of CHM benefits. The pendency of the

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[141] *Id.* This issue was resolved in paragraphs 3 and 5 of Article 11 of the Moon Treaty which does not make reference to a moratorium and which allows for exploitative activities relating to natural resources not-in-place.

[142] U.N. Doc. A/AC.105/196, Annex 1, p. 13.

[143] *Id.*

[144] I. H. Ph. Diederiks-Verschoor and W. P. Gormley, *The Future Legal Status of Nongovernmental Entities in Outer Space: Private Individuals and Companies as Subjects and Beneficiaries of International Space Law*, 5 J. SPACE LAW, p. 140, Nos. 1 and 2 (1977).

[145] U.N. Doc. A/AC.105/196, Annex 1, p. 17, April 11, 1977.

[146] *Id.*

formation of such a regime was not to constitute a prohibition or a moratorium on the use of exploitation of natural resources.[147] However, it was clearly the position of the United States in 1973 that with the establishment of such a regime that its function would be to secure the implementation of the provisions of the CHM principle.

The United States went no further in its 1973 proposal than it had in 1972 relating to the scope of the CHM principle. In 1972 the United States with respect to natural resources stated that they "shall be" the CHM. In 1973 this was modified to "are" the CHM. In urging that only the natural resources of the moon and other celestial bodies should fall within the principle, the United States also suggested that the CHM principle should not be employed in such a way as to inhibit the freedom of scientific investigation, including the right of a state to collect on and remove from the moon samples of its minerals and other substances.[148]

The U.S. proposal accepted the 1971 Soviet draft whereby juridical and natural persons were not to be allowed to have property or ownership rights respecting the surface or subsoil of the moon and celestial bodies. Both states were also committed through the 1967 Principles Treaty not to appropriate by means of sovereignty or otherwise the moon and celestial bodies. Consequently, both were in agreement that public sovereignty rights were not applicable to the space environment and that private property rights could not be established respecting the surface or subsurface of the moon, nor any part thereof nor natural resources in place.[149]

By 1976 additional support for the CHM principle had emerged within COPUOS. Thus, Italy had proposed: "The economic resources of the Moon, due to be (when) transferred on to the Earth, shall be dealt with as common heritage of mankind; all States shall have an equal and unhindered access to them on an equitable basis."[150] At the same time Italy offered the view that

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[147]H. Reis, Press Release USUN-37 (73), p. 5, April 19, 1973. Mr. Reis represented the United States on the Legal Subcommittee of COPUOS.

[148]This proposed right was set forth in Article 5 of the 1973 COPUOS draft. U.N. Doc. A/AC.105/115, April 27, 1973. This right was preserved in Article 6, paragraph 2, of the 1979 Moon Treaty.

[149]This understanding allowed them to agree on the terms of Article 11, paragraph 3, of the 1979 Moon Treaty. This provided that "neither the surface nor the subsurface of the Moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person." However, this limitation, together with the others set out in this article were to be without prejudice to the proposed future international regime. Pending the formation of such a regime the language of paragraph 3 by allowing for the acquisition of property rights in non-in-place materials has clarified the right of space-resource States to take possession and control of such materials. *Compare* S. Gorove, *Legal Resources of the Natural Resources of the Moon and Other Celestial Bodies,* PROCEEDINGS OF THE 16TH COLLOQUIUM ON THE LAW OF OUTER SPACE, p. 178 (1974).

[150]U.N. Doc. A/AC.105/171, Annex 1, p. 2, May 28, 1976; U.N. Doc. A/AC.105/196, Annex 1, p. 4, April 11, 1977.

moon resources when transferred to the earth could not appertain to "any country for its own exclusive economic profit."[151] While the members of COPUOS welcomed this support for the CHM principle, it is notable that the Italian submission that would have prevented a state from being entitled to "exclusive economic profit" was never accepted and forms no part of the treaty.

In 1976 COPUOS also received a joint working paper from Argentina, Brazil, Chile, Indonesia, Mexico, Nigeria, Romania, Sierra Leone, and Venezuela. They urged that "[s]tates Parties undertake to establish an international regime governing such exploitation on the basis of the principle that the Moon and its resources are a common heritage of mankind."[152]

By the close of 1977 the Working Group had arrived at a text based on informal consultations. They were in agreement that it would be necessary to establish an international regime governing the exploitation of the natural resources of the moon when such exploitation were to become feasible. This agreement, which was to become Article 11, paragraph 5, of the Moon Treaty, plainly indicated that an international regime was to be established when exploitation were proven feasible. It did not state that the regime would have to be established prior to exploitation. Consequently, and consistent with the expectations developed during the negotiations, exploitation may take place now. Further, the Working Group were in agreement that the future regime was to be organized "on the basis of the principle that the natural resources of the Moon are the common heritage of mankind."[153]

On the basis of the deliberations of the Working Group, and pending the appearance of the 21-article Austrian Working Paper on April 3, 1978,[154] relevant questions were being raised relating to the existing work product of the negotiations. Among these were: What is the legal meaning to be accorded to CHM? Is it a concept or is it a principle? Does it apply to both exploration and to exploitation of the moon's natural resources? And, "What activities would be permitted with regard to the Moon's resources before an agreed international regime governing exploitation of those resources is established and in force?"[155] According to Chen:

> Certain members considered "common heritage of mankind" as a philosophical concept lacking legal content which had no place in a legal instrument, while others maintained that it was a legal concept and a prerequisite for the elaboration of a

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[151] *Id.*

[152] U.N. Doc. A/AC/171, Annex 1, p. 3, May 28, 1976; U.N. Doc. A/AC.105/196, Annex 1, pp. 4-5, April 11, 1977.

[153] U.N. Doc. A/AC.105/196, Annex 1, p. 19, April 11, 1977.

[154] U.N. Doc WG.I(1978)/WP.3, 3 April 1978; U.N. Doc A/AC.105/218, Annex 1, 13 April 1978.

[155] K. Chen, *Pending Issues Before the Legal Sub-Committee of the United Nations Committee on the Peaceful Uses of Outer Space,* 5 J. SPACE LAW, p. 30, Nos. 1 and 2 (1977).

> treaty relating to the Moon. Some members held the view that activities should be permitted only for scientific purposes and that no commercial exploitation of the natural resources should take place before the establishment of the international regime; others thought that utilization of the Moon and its natural resources should also be allowed for other experimental purposes; still others were of the opinion that utilization should be allowed for any peaceful purpose pending the establishment of the international regime.[156]

In this scenario there were three central forces at work. There were national and private wishes to obtain tangible moon resources without upsetting the provisions of the Principles Treaty. There was the wish by an increasing number of states that the moon and celestial bodies might be treated as CHM resources, and this was later amended to include the natural resources of these areas as being CHM resources. There was also the wish that express agreement might be reached that natural and juridical persons could not claim the surface or subsoil of the moon as their property.[157] The reconciliation of these competing outlooks reached fruition in Articles 6, 11, and 18 of the 1979 Moon Treaty.

Article 6 of the Moon Treaty

There was initial support for the right of states, while engaging in scientific investigations, to collect moon rocks. Article 6, paragraph 2 of the treaty has used exemplary language authorizing such activities, namely:

> In carrying out scientific investigations and in furtherance of the provisions of this Agreement the States Parties shall have the right to collect on and remove from the moon samples of its mineral and other substances. Such samples shall remain at the disposal of those States Parties which caused them to be collected and may be used by them for scientific purposes. States Parties shall have regard to the desirability of making a portion of such samples available to other interested States Parties and the international scientific community for scientific investigation. States Parties may in the course of scientific investigations also use mineral and other substances of the moon in quantities appropriate for the support of their missions.[158]

Without the use of such words as "property" and "ownership" the article did not interpose inhibitions upon the exclusive use by the space-resource states of the identified substances. At the same time such states, as a result of such scientific activity, were not granted a status whereby they might assert sovereignty over the moon and celestial bodies. Space-resource states were given specific power to use the identified materials in quantities needed to engage in the present and immediate need of carrying on scientific investiga-

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[156] *Id.* at 30.

[157] This last assertion was contained in Article 8, paragraph 1 of the 1971 Soviet draft Treaty Concerning the Moon.

[158] U.N. Doc. A/34/20 (1979).

tions. Since, over time, the nature and extent of such investigations may be far-ranging, this provision will allow for very substantial uses of natural resources.

The fact that Article 6, as well as all of the other articles of the treaty, contains the term "States Parties," except for Article 1 which is definitional, does not mean that only states may engage in the exploration and use, including the exploitation of the substances and natural resources of the moon. Article 14 makes it clear that states can act through both "governmental agencies" and "non-governmental entities." Both governmental and private endeavors are considered to be national activities. Article 14 is consistent with Article 6 of the 1967 Principles Treaty. Illustrative of the "States Parties," provisions of the treaty is Article 8 which provides that such parties "may pursue their activities in the exploration and use of the Moon anywhere on or below its surface, subject to the provisions of this Agreement."

Article 11 of the Moon Treaty

Article 11 with its focus on the establishment of the CHM principle for both the moon, including other celestial bodies in the solar system, and its natural resources was the most difficult to negotiate and contains the most important provisions in the agreement. This article has been accepted by the Soviet Union despite its initial nonsupport. The article also adopts the 1971 Soviet proposal denying to juridical or natural persons property or ownership rights in the surface and subsurface of the moon nor any part thereof or "natural resources in place." The denial of the specified property and ownership rights, namely, exclusive rights, set out in paragraph 3 of Article 11 were, by the terms of the same paragraph, entered into "without prejudice to the international regime referred to in paragraph 5 of this article."

Pursuant to paragraph 5 the parties undertake to establish that regime "including appropriate procedures, to govern the exploitation of the natural resources of the Moon as such exploitation is about to become feasible." The treaty allows for exploitation of natural resources. In addition to the foregoing provision the preamble of the treaty calls attention to the need to bear in mind "the benefits which may be derived from the exploitation of the natural resources of the Moon and other celestial bodies." In response to a suggestion that Article 7, dealing with environmental matters, might be modified as it related to the CHM principle, COPUOS provided an interpretation, as follows: "Article VII is not intended to result in prohibiting the exploitation of natural resources which may be found on celestial bodies other than the earth, but, rather, that such exploitation will be carried out in such a manner as to minimize any disruption or adverse effects to the existing balance of the environment."[159] This construction of COPUOS is consistent with the in-

[159]U.N. Doc. A/34/20, paragraph 65, p. 11 (1979).

terpretation provided by Mr. S. N. Hosenball, who served as head of the U.S. delegation to COPUOS in 1979. He stated to COPUOS on July 3, 1979, that it was the understanding of that body that the language of Article 7 was "not intended to be read in such a way as to result in prohibiting exploitation of natural resources to be found on celestial bodies, but, rather, that any such exploitation is to be carried out in such a manner as to minimize, so far as possible, disruption of or adverse changes in the environment."[160] Although this statement was made in the context of the theme that the CHM principle seeks to prevent the unnecessary degradation of the physical environment, as reflected in Article 7 of the Moon Treaty, it also emphasized the prospect of the lawful exploitation of the natural resources of the moon and other celestial bodies.

Mr. Hosenball told COPUOS that Article 11 made it clear the parties to the agreement "undertake, as the exploitation of the natural resources of the celestial bodies other than the Earth is about to become feasible, to convene a conference to negotiate an international regime to govern the exploitation of those mineral and other substantive resources which may be found on the surface or subsurface of a celestial body."[161] He further stated that the terms of the agreement, which had resulted from many compromises on the part of COPUOS members, "places no moratorium upon the exploitation of the natural resources on celestial bodies, pending the establishment of an international regime."[162] By not imposing a moratorium on the exploitative capabilities of the space-resource states it will be possible for them to embark immediately on experimental activities to be followed by pilot operations as the realities of the situation may dictate. If during such exploitative operations it were ascertained that practical gains would be realized, and if there were a future interest in the formation of the identified regime, he assured the members of COPUOS that the United States would "make every effort to see that the regime is successfully negotiated."[163] He also called attention to the fact that activities respecting the natural resources of the moon were to conform both to Article 11, paragraph 7 dealing with the implementation of the CHM principle, and Article 6, paragraph 2, dealing with the use of moon substances for scientific purposes. He drew the conclusion that these provisions made it clear that the "right to collect samples of natural resources is not infringed upon and that there is no limit upon the right of States parties to utilize, in the course of scientific investigations, such quantities of those natural resources found on celestial bodies as are appropriate for the support of

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[160]U.N. Doc. A/AC.105/PV.203, pp. 23-25, July 16, 1979.
[161]*Id.* at 22.
[162]*Id.*
[163]*Id.*

their missions. We believe that this, in combination with the experimental and pilot programs, will foster and further, and perhaps speed up, the possibility of the commercial or practical exploitation of natural resources."[164] Just as an infant creeps before it crawls, and crawls before it walks which is its form of exploiting the surface on which it is engaged in these respective forms of movement, so also a state or its nationals will be exploiting the natural resources of the moon in the course of their experimental activity, pilot plant operations, and full-scale operational and use activities. Thus, the central strategy behind these provisions was to allow for exploitative activity despite an awareness of the fact that there would be extraordinary costs involved in returning substantial amounts of such resources to earth.

The United States was also interested in identifying the relationship between the 1967 Principles Treaty and the Moon Treaty. The Principles Treaty assures the free use of the space environment and access to it subject to basic limitations. The Moon Treaty makes provision for the exploitation of the moon's natural resources as well as exploration and use after they have been taken into possession. Thus, the Moon Treaty, in keeping with the general tenor of the Principles Treaty, assures uses subject to conditions. In this context Mr. Hosenball stated:

> In regard to the matter of the Moon treaty's relation to the 1967 Outer Space Treaty, discussions in the Committee resulted in no statements to the effect that the Moon treaty is intended to weaken in any way the provisions of the 1967 Treaty. In this light, and taking into account the last two preambular paragraphs of the Moon treaty, there was a feeling that a non-derogation provision would be superfluous. Our delegation accepted this view, and has joined in the consensus on the Moon treaty with the understanding that it in no way derogates from or limits the provisions of the 1967 Outer Space Treaty.[165]

Following Mr. Hosenball's statement the Soviet representative at COPUOS, Mr. Kolossov, stated that his government had been optimistic concerning the achievement of consensus on the draft Moon Treaty. While he observed that the Soviet Union would "make no hasty interpretation of the meaning behind each article of the new draft agreement,"[166] he did not raise any objection to the interpretations previously made by the U.S. representative.

In a prepared statement before the House Subcommittee on Space Science and Applications on September 6, 1979, Mr. Hosenball provided additional information relating to the manner in which the Moon Treaty had achieved consensus in COPUOS.[167] He stated that the exact formulation of the CHM

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[164] *Id.*

[165] *Id.* at 26.

[166] U.N. Doc. A/AC.105/PV.203, pp. 43-45, 16 July 1979.

[167] S. N. Hosenball, *Statement, Subcommittee on Space Science and Applications, Committee on Science and Technology, U.S. House of Representatives, September 6, 1979* [cited hereafter as "Statement"].

principle as it related to the exploitation of natural resources had caused the greatest difficulty to the negotiators. At the end of the Legal Subcommittee's negotiations in April 1978, the relevant draft of Article 11 provided:

> 1. For the purposes of this Agreement, the Moon and its natural resources shall be considered the common heritage of mankind, which finds its expression in the relevant provisions of this Agreement and in particular in paragraph 5 of this article.[168]

During the 1979 meeting of the Legal Subcommittee the government of Brazil suggested that the foregoing might read:

> 1. The Moon and its natural resources are the common heritage of mankind, which finds its expression in the provisions of this [Agreement] [Treaty] and in particular in paragraph 5 of this article.[169]

Consensus was obtained in COPUOS on the Brazilian formulation of Article 11. Mr. Hosenball advised the House Subcommittee that this resulted from acceptance by the Soviet Union and by the agreement on the part of the developing countries "not to insist on a provision imposing a moratorium on the exploitation of natural resources pending the establishment of an international regime to govern such exploitation."[170]

In his testimony he took some pains to point out that although the CHM principle had been established in Article 11, paragraph 1, that it was tied to the establishment of a future international regime, and that a process for dealing with such negotiations appeared in Article 18 of the treaty. He also developed at some length the open and public commitment of the United States during the early 1970s to the proposition that the natural resources of the moon and celestial bodies should be governed by the CHM principle.[171]

This documentation clearly identified the negotiating strategy of the United States in which it had sought to preserve the guarantees contained in the 1967 Principles Treaty relating to free exploration, use, and access to the space environment. During the 1972 and 1973 outer space negotiations the issue of the imposition of a moratorium on outer space use and exploitation had been raised. This position had been advanced by the group of developing nations that had introduced the same proposal for a moratorium respecting deep seabed resources before the General Assembly of the United Nations and which had secured the adoption of General Assembly Resolution 2750C (XXV) on December 17, 1970, by a vote of 108 in favor, 7 against, and 11 abstentions. The United States opposed a moratorium respecting exploration and use of both space and ocean resources. As to the former, Mr. Hosenball

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[168]U.N. Doc. A/AC.105/218, Annex 1, p. 6, April 13, 1978.
[169]U.N. Doc. A/AC.105/240, Annex 3, p. 5, April 10, 1979.
[170]Hosenball, "Statement," *op. cit.*, pp. 6-7.
[171]*Id.*, pp. 8-14.

reminded the members of the Subcommittee, that in 1973 COPUOS had been advised that:

> The United States is not prepared to accept an express or implied prohibition on the exploitation of possible natural resources before the international conference meets and agrees on appropriate machinery and procedures and a treaty containing them takes effect. In our view, the Moon agreement cannot reasonably seek to require that exploitation must await the establishment of the treaty-based regime.[172]

He also referred to the U.S. working paper presented to COPUOS on April 17, 1973,[173] in which it had been indicated that the concept of a preregime moratorium had been excluded. The U.S. had stated in 1973 that:

> As is apparent from the text, this working paper excludes the concept of a preregime moratorium. References to the words "in place" in the first sentence of that paragraph [2] and to paragraph 7 of Article X make this clear. More particularly, the words "in place" in the first sentence of paragraph 2 are intended to indicate that the prohibition against assertion of property rights would not apply to natural resources once reduced to possession through exploitation either in the pre-regime period or, subject to the rules and procedures that a regime would constitute, following the establishment of the regime.[174]

Mr. Hosenball told the Subcommittee in 1979 that the above statements "were not contradicted and constituted a part of the legislative history of the treaty negotiations."[175] The legislative history of the drafting of an international agreement will, of necessity, provide the foundation upon which the interpretive process rests. When the terms of the Moon Treaty are connected with the statements constituting the legislative history, it should be clear that the treaty seeks to assure that exploratory and exploitative activities will be encouraged. The transition from experimental to pilot programs, and from pilot programs to commercial activity can be forecast. This activity is permissible to determine the feasibility of further exploitation. Once this has been demonstrated, the proposed regime can be negotiated. From the point of view of the free-enterprise system the moon agreement will allow for the planned, orderly and legally controlled space activities. Thus, the treaty is clearly consistent with the 1967 Principles Treaty. The Soviet-proposed restrictions against property or ownership rights on the surface or subsurface of the moon are conditioned by the U.S. sponsored "in place" requirement. This forestalls a limitation on a free-enterprise system. It was the purpose of the United States in amending the Soviet proposal by adding the term "in place" to make sure that the prohibition against the assertion of property rights would not apply to moon rocks and other natural resources when they

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[172] *Id.*, pp. 10-11.

[173] U.N. Doc. A/AC.105/C.2(XI)/Working Paper 15, U.N. Doc. A/AC.105/196, Annex 1, p. 16, April 11, 1977.

[174] Quoted by Hosenball, "Statement," *op. cit.*, p. 11, Article X of the 1973 draft became Article 11 of the 1979 Moon Treaty.

[175] *Id.*

were reduced to the possession of the exploiter. At that time the exploiter would be using something that had been acquired, and it would not constitute either a property right or an ownership right in the surface or subsurface of the moon. Once materials on the surface or derived from the subsurface had been taken into possession or acquired they are no longer "in place." No advantage would be derived by the acquirer or possessor if the materials were to be left in place. Only by their movement and their subsequent utilization could they have value to the acquirer. As pointed out above there is a real and important distinction between the right to acquire and use a movable resource and fixed property or ownership rights—enabling an owner to exclude all others from an identifiable spatial area. The gathering of a moon rock or of lunar substances for use is the substantial equivalent of the harvesting of a living resource in the ocean. The Moon Treaty preserved this distinction by denying property or ownership rights to the natural resources of the moon or celestial bodies only so long as such resources remain in place. The treaty, furthermore, is internally consistent on this point. Article 11, paragraph 8, by referring to Article 6, paragraph 2, has used words making it clear that there is a right to collect mineral samples in connection with scientific investigations and that such substances and other natural resources may be used by the collector for scientific purposes. This position was reflected by Mr. Hosenball in his July 1979 statement to COPUOS.[176] The other members of COPUOS did not disavow this interpretation. He also brought this aspect of negotiations to the attention of the House Subcommittee.[177]

In his appearance before the House Subcommittee Mr. Hosenball also recounted the negotiating history as it related to the spatial application of the CHM principle. He noted that in the 1979 COPUOS Report it would be pointed out that the Committee was in agreement that "by virtue of Article I, paragraph 1, the principle contained in Article XI, paragraph 1, would also apply to celestial bodies in the solar system other than the Earth and its natural resources."[178] Article 1, paragraph 1 reads: "The provisions of this Agreement relating to the Moon shall also apply to other celestial bodies within the solar system, other than the Earth, except insofar as specific legal norms enter into force with respect to any of these celestial bodies." Mr. Hosenball stated that "the plain meaning of this Committee agreement is to limit application of the 'common heritage' principle to the celestial bodies themselves and to the natural resources of such celestial bodies."[179] Continuing with this assessment of the spatial application of the CHM principle, he stated in his next sentence, "Clearly, there is no intent to apply the principle

[176]U.N. Doc. A/AC.105/PV.203, p. 22, July 16, 1979.

[177]Hosenball, "Statement," *op. cit.*, pp. 12-13.

[178]*Id.* at 13. The 1979 Report of COPUOS does contain the foregoing words. U.N. Doc. A/34/20, paragraph 62, p. 11 (1979).

[179]Hosenball, "Statement," *op. cit.*, p. 13.

to orbits and trajectories of space objects."[180] This observation must be examined from the perspective of the language of paragraph 2 of Article 1 which states that "[f]or the purpose of this Agreement reference to the Moon shall include orbits around or other trajectories to or around it." This means that the CHM principle applies to moon orbits and trajectories. This follows from the language of Article 11 applying the CHM principle to the moon and to its natural resources and the language of Article 1, paragraph 2, pursuant to which the moon is defined to include orbits around or other trajectories to or around it. Thus, Mr. Hosenball's observation identifying the spatial non-applicability of the CHM principle means only that the CHM principle does not apply to orbits around the earth.

The need for clarification as to the spatial coverage of the CHM principle was acknowledged by Mr. Hosenball when he made a statement for the record on July 3, 1979, at COPUOS. He identified the U.S. understanding of the Article's meaning as follows:

> We accept the Committee's conclusion as to this Article—namely, first, that references to the Moon are intended to be references also to other celestial bodies, other than the Earth; secondly, that references to the Moon's natural resources are intended to comprehend those natural resources to be found on these celestial bodies; and thirdly, that the trajectories and orbits referred to in Article I, paragraph 2 do not include trajectories and orbits of space objects in Earth orbit only, or trajectories of space objects between the Earth and Earth orbit.
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> In regard to the phase "Earth orbit only," the fact that a space object in Earth orbit also is in orbit around the Sun does not bring the space objects which are only in Earth orbit within the scope of this treaty; and a space object orbiting the Moon, while the Moon orbits the Earth as well as the Sun, is in fact within the scope of this treaty.[181]

This interpretation was received with approval by COPUOS. Thus, the 1979 COPUOS report has recorded that the Committee was in agreement that "the trajectories and orbits mentioned in Article I, paragraph 2, do not include trajectories and orbits of space objects in Earth orbits only and trajectories of space objects between the Earth and such orbits."[182] In short, the acceptance of the CHM principle in the proposed Moon Treaty does not deal with earth orbits and trajectories only. Thus, the Moon Treaty will not have any application to the process of ascending into earth orbit or remaining in such an orbit. Since this use of the space environment has been and will continue to be the space activity having the greatest political, economic, and military value it is hard to see, either at the present or even in the future, how the proposed treaty will present any threat to the free-enterprise system in these exploitable areas.

As has been pointed out the CHM principle encompasses the concept of the sharing of benefits produced by the space-resource states with those states

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[180] *Id.*
[181] *Id.* at 13-14; U.N. Doc. A/AC.105/PV.203, pp. 25-26, July 16, 1979.
[182] U.N. Doc. A/34/20, paragraph 63, p. 11 (1979).

still in the process of development. Since the advanced states have risked their resources in hazardous, space activities, there has been a natural wish on their, and for their nationals, part to recoup their investments and to obtain profits as well as to be of assistance to states still in a developmental condition. Thus, a discussion of the distribution of benefits will be an ongoing one, with many new proposals still to be heard as to sharing. In his review of the Moon Treaty negotiations Mr. Hosenball pointed out there was "nothing in the text [that] suggests that all countries are to share equally in the Moon's resources."[183] He also stated:

> Any sharing of resources would have to be agreed to in an international conference. Article XI, paragraph 7, uses the phrase "equitable," not "equal" sharing. In determining "equitable" sharing, special consideration is to be given not only to the needs and interests of the developing countries but also to "the efforts of those countries which have contributed either directly or indirectly to the exploration of the Moon.[184]

This language, which is an accurate paraphrase of Article 11, paragraph 7 (d), is consistent with other international formulas seeking to effect a distribution of natural resources. For example, Article 33, paragraph 2, of the 1973 International Telecommunication Convention provides that radio frequencies and the geostationary satellite orbit must be so used as to enable countries or groups of countries to "have equitable access to both . . . according to their needs and the technical facilities at their disposal."[185] This formula has allowed for a satisfactory forum for the negotiation of competing claims. It may be expected that paragraph 7 (d) will allow for a suitable blending of the respective claims of states for an equitable share of CHM resources.

Consistent with and supporting the foregoing analysis was the statement of Ambassador R.W. Petree to the General Assembly's Special Political Committee on November 1, 1979. (Press release, USUN-107 (79), November 1, 1979.) He reemphasized the fact that consensus diplomacy had produced an agreement that enhanced the opportunities of states and defined juridical and natural persons to engage in space activities, including the exploration, use and exploitation of the moon and its natural resources. He stated that the Moon Treaty was consistent with the 1967 Principles Treaty, that the former did not derogate from the latter, that the Moon Treaty did not provide for a moratorium on exploitative activities, and that there was a compatibility between the provisions allowing for scientific and commercial activity respecting the moon and its natural resources.

Following specific reference to Article 6, paragraph 2, dealing with the right to collect and remove mineral substances for scientific purposes, and to

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[183] *Id.*
[184] *Id.*
[185] T.I.A.S. No. 8572.

Article 11, paragraph 7, identifying CHM objectives, as "providing both a framework and an incentive for exploitation of natural resources of celestial bodies," (*Id.*, p. 7.) he stated that:

> They constitute a framework because even exploitation which is undertaken by a State Party to the Treaty, or its national outside of the context of any such regime, either because the exploitation occurs before a regime is negotiated or because a particular State may not participate in the international regime once it is established, will have to be compatible with those purposes set forth in Article 11, paragraph 7 of the Moon Treaty.
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> The same paragraph also is an incentive. By setting forth now the purposes governing exploitation of natural resources, uncertainty is decreased and both States and private entities may now find it possible to engage in the arduous and expensive efforts necessary if exploitation of the natural resources of the celestial bodies is ever to become a reality. (*Id.*)

Following other equally informed expressions by representatives of other states the Special Political Committee submitted the Moon Treaty to the General Assembly for its approval. When the matter came before the General Assembly on December 5, 1979, the Moon Treaty was approved without a formal vote. (U.N. Doc. A/34/PV.89, December 10, 1979.) The Moon Treaty was thereupon referred by the Secretary-General of the United Nations to the member states for signature and for ratification in accordance with their constitutional requirements. As they engage in their respective deliberations they will give special consideration to fact that the agreement allows for the exploitation of the moon and its natural resources.

The Campaign against an Effective Legal Regime in the Space Environment

In the short time since COPUOS gave its approval to the Moon Treaty several U.S. commentators, who have played a role in the identification of policy as it may relate to the use and exploitation of ocean resources, have evidenced their concern as to certain Treaty terms by asserting that the CHM principle violates the concept of free enterprise. It had been quite evident among the members of COPUOS that at the same time that they had been determining the applicability of the CHM principle to the moon and to its natural resources that the delegates to the Third United Nations Conference on the Law of the Sea were analyzing the same concept. For example, the Austrian representative during the 1979 debates on the Moon Treaty stated that "[s]ome delegations have informally indicated the special difficulty which arises from the fact that the notion of the common heritage of mankind is also at the center of the Law of the Sea negotiations."[186]

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[186]U.N. Doc. A/AC.105/PV.191, p. 13, June 19, 1979. A U.S. representative has observed that "the negotiations in the U.N. Conference on the Law of the Sea with respect to an international authority for mining manganese nodules on the deep seabed beyond the limits of national jurisdiction, have so sensitized the international community that many of the less-developed countries have sought to bring basic elements of the seabed authority being negotiated into the

It is true that the Group of 77 circulated a text on August 16, 1974, at the Law of the Sea negotiations, which read: "The area and its resources being the common heritage of mankind, the title to the area and its resources and all other rights in the resources are vested in the Authority on behalf of mankind as a whole. These resources are not subject to alienation." However, by 1976 the Law of the Sea negotiators had rejected this proposal and had not ordained that such resources were to be "vested" in the proposed authority. Further, all of the Law of the Sea texts from 1975 down to the present have provided that "[t]he Area and its resources are the common heritage of mankind."[187]

Resistance to the formation of an orderly legal regime for the exploitation and use of the moon and its natural resources has rejuvenated the same objections that have been made regarding the establishment of an orderly legal process for the exploitation and use of the manganese nodules lying on the deep seabed and ocean floor. In each instance it has been suggested that the acceptance of the CHM principle would in some manner deny to the scientifically and technologically advanced states and their nationals the prospect of successful exploitation and use.

It has been evident that the critics of the CHM principle possess preferred policy outlooks. In general terms they are opposed to regulation of almost any kind, and particularly a regulatory process that is international in character.[188] While, in principle, they are not friendly to national controls, these would be acceptable in preference to other forms of governance, and particularly if national control could be blended with a considerable amount of national protections and benefits. It is possible that by launching an attack on the CHM principle as identified in the Moon Treaty an effort has been made to seek to discredit the CHM principle as it may ultimately be contained in a Law of the Sea international agreement.

The early attacks on the Moon Treaty in the United States raise four issues. There has been an effort to demonstrate that the language of the treaty, and the purposes attempted to be achieved by such language, had been misinterpreted by the principal U.S. negotiator in his statements to COPUOS and to the House Subcommittee on Space Science and Applications on September 6, 1979. In particular, it has been alleged that the United States has agreed to a moratorium on the exploitation of the natural resources of the moon.[189] It

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prospective moon treaty." H. Reis, *International Space Law, Hearings Before the Subcomm. on Space Science and Applications of the Comm. on Science and Technology, U.S. House of Representatives,* 94th Cong., 2nd Sess., p. 31 (1976).

[187]U.N. Doc. A/CONF.62/WP.8/Rev./Part I; U.N. Doc. A/CONF.62/WP.10/Rev.1, April 28, 1979. For an analysis of the development of the CHM principle in both the Law of the Sea negotiations and the negotiations for a Moon Treaty down to July 1976, see, C. Q. Christol, *International Space Law, Hearings Before the Subcomm. on Space Science and Applications of the Comm. on Science and Technology, U.S. House of Representatives,* 94th Cong., 2nd Sess., pp. 2-17 (1976).

[188]Ratiner, "Statement," *op. cit.,* p. 12.

[189]Ratiner, "Statement," *op. cit.,* p. 7 and pp. 13-14.

has also been asserted that Mr. Hosenball's comment on the meaning of the "in place" provision of Article 11, paragraph 3, cannot be supported.

Second, there has been an effort to demonstrate that a consistent position exists between the Soviet Union and the less-developed countries, and that they somehow can find support in the Moon Treaty to prevent the United States or its authorized nationals from engaging in the exploitation of the indicated natural resources. Third, there has been an attempt to use the language of the proposed treaty to demonstrate that supporters of the free-enterprise system will not embark on the required investments either because of the prospect that there will be an international legal regime at some future date or because of the absence of such a regime at the present time. Finally, by failing to examine analytically the nature and purpose of the negotiations there has been an unfortunate tendency to grasp at the presumable literal meaning of words without taking into account the gloss applied to them during the extended diplomacy of consensus.

The allegation that the principal U.S. negotiator has misinterpreted the meaning of the treaty as it relates to a moratorium on the exploitation of the moon's natural resources is particularly unfortunate. As stated above the United States has consistently opposed the thought that there should be a moratorium on the exploitation of both moon and deep seabed resources. To be inconsistent on this issue would weaken the total policy position of the United States. The purpose and intent of the Moon Treaty, as well as its language in Article 11 and in Article 18, is to allow for the present exploitation of moon resources. It is only the establishment of the international regime that is to await exploitation—which exploitation in a physical sense would be expected to be more limited at the beginning than later. The regime is to follow the exploitation—not the exploitation to follow the regime. Since there is no specific provision in the treaty providing for a moratorium, since some states at one time endeavored to introduce the language of moratorium into the negotiations, since their efforts were rebuffed, since the chief U.S. negotiator has categorically indicated that no moratorium existed, and in view of the fact that this statement was not denied in COPUOS, it would appear that the only way that those who wish to read a moratorium into the agreement can do so is by way of implication. While it is not unusual to receive arguments premised on inference, this approach does not have merit in this situation for the foregoing reasons. Additionally, it would be inconsistent to identify the "exploitation of the natural resources of the Moon and other celestial bodies" as a purpose of the treaty as set out in the treaty preamble, and then attempt to establish only on the basis of inference the presence of a major limitation on the desired result. Further, the environmental protections contained in Article 7 were understood by COPUOS, according to the uncontroverted statement of Mr. Hosenball, to mean that this Article was "not intended to be read in such a way as to result in prohibiting the exploitation of natural resources to be found on celestial bodies but, rather, that any such exploitation *is to be carried out* in such a manner as to

minimize, so far as possible, disruptive of or adverse changes in the environment."[190] This language contemplates a present exploitation, and this is hardly in keeping with a moratorium.

Some confusion seemingly has arisen in the minds of critics of the provision in Article 11, paragraph 3 that "[n]either the surface nor the subsurface of the Moon, nor any part thereof or natural resources in place, shall become property. . . ." Members of COPUOS in agreeing to the foregoing language sought to eliminate the original Soviet proposal of 1971 whereby the Soviet Union endeavored to prevent juridical and natural persons from claiming "the surface or subsoil of the Moon as their property."[191] This would have been a total prohibition against property rights and ownership. When the United States urged the inclusion of the words "in place" the U.S. representative stated that these words were intended "to indicate that the prohibition against ascertation of property rights would not apply to natural resources once reduced to possession through exploitation either in the preregime period, or, subject to the rules and procedures that a regime would constitute, following the establishment of the regime."[192] The terms of Article 11, paragraph 3 are clearly intended to allow for exploitation upon the taking of possession of such items. This is not the language of moratorium.

A second attack has been made on the meaning of the treaty as reflected in its negotiation and as explained both by COPUOS in its formally drafted commentary on the treaty[193] and by the essentially identical language of the principal U.S. negotiator. It has been made to appear by some commentators that the terms of the treaty and the indicated COPUOS and U.S. interpretations are still subject to the willingness of the Soviet Union and the less-developed countries to accept the foregoing views.[194] In principle it is difficult to understand how such Soviet and Third World views, even if contrary to those just identified, would negate such interpretations and thereby deny to the United States and its authorized nationals the right to begin exploitative activities. Further, since the United States and the Soviet Union as major space-resource states have common interests in exploitative activities, it is more likely that their common interests will support common exploitative efforts. At the present time there is no evidence that they will pose objections to exploitative activities.

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[190]U.N. Doc. A/AC.105/PV.203, pp. 23-25, July 16, 1979. Italics added to indicate that this is a present right.

[191]U.N. Doc. A/8391, Article 8, paragraph 1, June 4, 1971.

[192]Hosenball, "Statement," *op. cit.*, p. 11.

[193]U.N. Doc. A/34/20, paragraphs 55-66, pp. 10-12 (1979).

[194]For example, it has been imagined that "it is clear beyond reasonable doubt that the U.S.S.R. and its supporters in COPUOS have and are executing a careful and deliberate program intended to limit the entry of free enterprise into space." Arthur M. Dula, *Free Enterprise and the Proposed Moon Treaty, Part II,* L-5 NEWS, Vol. 4, No. 11, p. 7 (November 1979). The law and practice evolving from the 1967 Principles Treaty clearly denies success to such a maneuver.

A third criticism of the Moon Treaty is that it is hostile to those states which are based on the free-enterprise system. More particularly, it has been asserted that investors domiciled in private-enterprise countries will be reluctant to engage in exploitative activities pending further clarification of the enterpriser's right to profit from the use of that technology.[195] This outlook, if valid, could impose constraints on future exploitative activity. However, the international legal order that has emerged particularly since the acceptance of the 1967 Principles Treaty by about 80 countries, including all of the space-resource states, has patently made provision for free use of and access into the space environment. The Moon Treaty is not designed to turn the clock back on this major achievement. Rather, the treaty, through the establishment of legal rights and duties, has sought to normalize and regularize the rights to exploit the particular resources identified in the treaty.

While the acceptance of the CHM principle in the treaty may require the sharing of some of the benefits realized from the exploitative process, this cannot be treated as a device to eliminate the profits earned through the taking of risks under the free-enterprise system. In the minds of many the clarification of the international legal regime allowing for such exploitative activity will encourage rather than restrict both the free-enterprise and other economic systems to engage in economically viable space activity. Unlike the present provision in the 1979 Law of the Sea Negotiating Text, which calls for the establishment of a carefully structured institution for the management of the manganese nodule resource, the Moon Treaty contains no comparable provisions. The Moon Treaty simply contemplates that a suitable regime is to be formed at a future date depending on the then present scientific facts pertaining to the full exploitability of the natural resources of the moon.

Finally, there has been a disposition on the part of the critics of the treaty to read its terms only in a highly restrictive and essentially literal sense. One illustration is the attempt to identify the meaning of the terms "scientific investigation" and "scientific investigations" as they appear in Article 6, paragraph 2 in an artificial and limited way.[196] Since these expressions do not exclude the inherent elements of research and developments as a part of such scientific inquiry, no good reason appears to exist to assert that research and development having the purpose of advancing scientific investigation may not be permissible. Since scientific investigations have resulted in commercial products—as in the United States space program—it is not likely that the United States and other states that have benefited from such activities will be heard to argue that scientific investigation must be divorced from modern technology and consumer benefits.

If there are valid criticisms to the Moon Treaty they do not include those just identified. The nature of the world's political-legal preferences are such

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[195]Ratiner, "Statement," *op. cit.*, pp. 13-14.
[196]Dula, *op. cit.*, p. 5.

that mere apprehensions as to the application of the CHM principle in the workaday world provide no valid basis for objection to the most recent consensus conclusions of COPUOS. The political-legal base accorded to the CHM principle through the consensus diplomacy of COPUOS will allow for the lawful exploitation of the natural resources of the moon and other celestial bodies. The other terms of the treaty will also contribute to the realization of important values in the space environment by all states and their nationals.

A somewhat different form of criticism, which although raised and apparently disposed of by COPUOS, continues to be directed toward the lack of a formal definition of CHM in the treaty. This form of criticism comes from those who, when confronted by innovative terms such as mankind or CHM, seek to advance a definition of a concept or of an idea. In this connection it should be kept in mind that while definitions may be suitable for a specific object, having, for example, tangible qualities, or for private relationships, as in a contract situation, the utility of endeavoring to define a principle may be questioned. It is generally acknowledged that principles do not lend themselves readily to definitional labels. The latter serve as arbitrary limitations on growth and destory the usefulness of principles.

Nonetheless, some policy purposes may be advanced by those who are imbued with a definitional propensity. For example, it may be imagined that through a definition it would be possible to achieve a degree of present specificity, with this being regarded as a suitable value. Unfortunately, for this perspective the history of the law has demonstrated that words have a habit of changing their meanings. As a result a definitional fetish may produce deep-seated frustrations.

In the search for the anticipated security of a present definition, and in the absence of experience as to how the concept or principle has actually functioned, there have been complaints raised as to the novelty, generality, philosophical underpinnings—as opposed to legal—and the uncertain historical pedigree of the challenged concept. Other false guidelines have been references to the literal meaning ascribed to the indicated term on the basis of a reference to a dictionary. Flawing such definitional efforts have been failures to recognize that such concepts frequently possess the quality of creative principles with the essential quality of starting points for legal reasoning. Such definitional approaches may contribute more to the obscuring of goals than to providing guidance in the use of the yet unperfected and unexplored concept. In short, such definitional approaches may serve more to prevent the gathering of practical meaning than to enhance it.

Another enemy of the legal principle is provincialism. This occurs when an effort is made to fashion an understanding of what is new from a limited experience with the municipal law that is dominant in a given state. A wider parochialism has occurred when an attempt is made to impose on a new concept, such as that of "mankind," meanings which have their roots only within a given legal system.

When such inelastic definitional and provincial biases are put aside an

opportunity then is afforded to seek to understand the function of such words and expressions and to put utilitarian meanings into the new ideas. This can result in the identification of suitable components, and agreement can be reached as to their relevance and worth. Further, they can be tested in practical situations to determine if they are delivering a political-legal product worthy of acceptance and retention.

In the international law of the space environment what has been said has particular application to the "common interest of mankind" as set out in General Assembly Resolution 1742 (XIV), the "province of all mankind" as contained in Article 1 of the 1967 Principles Treaty, and the CHM principle as accepted in Article 11 of the Moon Treaty. From the context of space uses and activities and through an understanding of the purposes to be served by the international law of the space environment, it will be possible to determine the meaning of such concepts and principles. From this perspective the condition, identified as the " 'mankind' syndrome,"[197] offers considerable guidance to juridical and natural persons in the formulation of procedures and practices allowing for the orderly exploration, use, and exploitation of the moon and its natural resources. Giving substance to the CHM concept and allowing for its utilitarian use for the benefit of juridical and natural persons are Articles 6, 8, 11, and 18 of the Moon Treaty. They, when read in the light of the Moon Treaty negotiations, provide suitable and adequate guidance to the implementation of the CHM principle.

Conclusion

The Moon Treaty, like all of the other space environment treaties following the 1967 Principles Treaty, fortifies and extends certain critical provisions of the latter. The Moon Treaty has made a most important contribution to the clarification of international space law by reemphasizing the principle that the moon is not subject to sovereign appropriation. By comparison, however, the treaty makes provision for the exercise of property and ownership rights respecting those natural resources that have been removed from the surface or the subsurface of the moon. Thus, provision is made for the exploration and use of the moon and its natural resources, including their exploitation for commercial purposes as well as for scientific purposes. The exploitation for commercial purposes is made subject to the fact that the moon and its natural resources are the CHM.

The Moon Treaty goes beyond making a distinction between the nonexercise of national sovereignty and the existence of public and private property rights. As to property rights the treaty prevents the acquisition of property rights to spatial areas such as the moon. It also specifically prohibits the acquisition of property rights in the surface or subsurface of the moon and to natural resources *in place*. Thus, the treaty allows for exploitation by both

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[197]A. Bueckling, *The Strategy of Semantics and the "Mankind Provisions" of the Space Treaty*, 7 J. SPACE LAW 15 (1977).

public and private legal persons of natural resources that have been reduced to possession by the act of removing them from their original in place location. Once such materials and resources are no longer in place the possessor may maintain proprietary rights. The treaty in taking cognizance of the emergence of such exploitative activity has provided for a subsequent convening of an international conference to formulate a regime whereby larger and more extensive exploitation activities will be brought within the CHM principle. The treaty does not impose a moratorium on such exploitative activity nor on the acquisition of property rights with regard to such natural resources pending the convening of the identified conference.

During the negotiation of the terms of the Moon Treaty, lasting from the Argentinian original proposal in 1970 to July 1979, particular difficulties were encountered in reaching consensus on the use and exploitation of natural resources, on limits to be imposed on ownership and property rights, and the CHM principle. During the decade of negotiations a variety of views was put forward on these subjects by legal authorities and by COPUOS participants. The negotiations were marked by many innovative suggestions and by a willingness of the commentators and negotiators to modify positions initially favored.

Originally the Soviet Union was opposed to the CHM principle. Further, Soviet spokesmen initially objected to the right of private legal persons to engage in exploitative activity relating to the natural resources of the moon. The less-developed countries periodically urged the view that there should be a moratorium on the exploitation of the moon's natural resources. They also supported the view that such resources, if they were to be used, should be used only on the surface of the moon. At the outset there was sentiment in favor of applying the CHM principle only to the moon, but not to its natural resources. During the drafting period some states urged that the moon's natural resources should be used only for scientific purposes. At the end all of these positions had been abandoned and affirmative provisions are contained in the treaty allowing for the use and exploitation of the moon and its natural resources pursuant to the CHM principle and for both scientific and commercial purposes. Such use and exploitation of natural resources by public and private legal persons, as has been emphasized, is limited to resources no longer in place. The reason for this limitation is not to prevent such exploitation and use but rather is intended to assure that there not be claims to sovereign rights to the surface or subsurface of the moon as a result of such exploitative activity. By allowing for the indicated exploitative activity the Moon Treaty conforms to the underyling thesis of the 1967 Principles Treaty that the space environment should be explored and used and that access to the area for peaceful uses and activities should not be restricted.

During the negotiations a number of suggestions were put forward that would have produced legal consequences for human activity on the moon. It was suggested that the moon and its natural resources should be given a continental shelf status. Some scholars favored giving the U.N. public sov-

ereignty and private property rights over the Moon and its natural resources. Others would have denied the entire possibility of obtaining legal title to the moon's materials and resources. Others would have rejected the traditional *res communis* principle, and Professor Cocca would have enlarged and extended the *res communis* principles through acceptance of the *res communis humanitatis* concept. While the latter proposal has a close affinity with the CHM principle, all of the other proposals did not survive the assessments of the commentators and the COPUOS negotiations.

Articles 6, 8, 11, and 18, as well as the preamble, are most directly relevant to the use and exploitation of the moon. Articles 6, in assuring the freedom of scientific investigation, refers to the collection, use, and removal of moon samples or its mineral and other substances. It does not use the terms found in Article 11, namely, natural resources. Article 6 by guaranteeing the freedom of scientific investigation does not restrict human activity exclusively to scientific activity. By allowing for the use of such mineral and other substances in support of man's missions on the moon it is clear that the treaty contemplates the presence of human activity more extensive than scientific inquiry. This article does not deny the use of the moon and its natural resources for other activities. Moreover, by encouraging scientific activity this article lays the foundation for the more advanced exploitation contemplated in Articles 11 and 18. Article 8 identifies where exploitative activity may take place, namely, on or below the surface of the moon.

Article 11, by providing that the CHM principle appertains to the moon and to its natural resources, advances the international law of the space environment well beyond the terms of the 1967 Principles Treaty. The CHM principle is consistent with the provisions of Article 2 of the Principles Treaty preventing the sovereign appropriation of the space environment. The CHM principle takes account of the need of states and peoples to utilize natural resources for their general well-being in an era in which natural resources are in increasing demand. The CHM principle is identified in detail in Article 11 so that those who are engaged in exploitative activities will understand the nature of their rights and duties as they make use of the indicated natural resources. States that become bound by the Moon Treaty will, pursuant to Article 18, be obliged to work out a more detailed international regime for the governance of the moon and the larger exploitation of its resources over time. States will be expected to adopt national legislation whereby they will comply with the international standards fixed in Article 11 and in any subsequent requirements formulated by the future regime. The treaty's provisions specifically enable both public and private legal persons—without regard for the national social-political structure of any state—presently to engage in exploitative activities. The treaty is neither biased for or against states organized upon a free-enterprise or a socialist preference. It does not prohibit exploitation pending the establishment of the future regime.

In its present form the Moon Treaty is designed to assist in the exploration, use, and exploitation of the moon and its natural resources. All of the mem-

bers of COPUOS, industrial states and LDCs alike, perceive that through the CHM principle exploitation is now permissible. They are also aware that over time there is a probability that the economic and scientific benefits of exploitation and use will be maximized.

The Moon Treaty is a affirmative step toward insuring that exploitation and use will take place in an orderly manner under applicable international law. The outcome will be more than an orderly structure for the exploitation and use of the moon and its natural resources. There will also be, pursuant to the CHM principle, an orderly process for the sharing of the benefits derived from the exploitation and use of increasingly important resources. Such sharing, as the treaty explicitly provides, is to be based on equitable considerations. This does not mean that there will be equal sharings. Those who have taken the risks of exploitative activity will still be allowed to realize the benefits flowing from their initiatives, enterprise, and successes. Pursuant to the spirit underlying the treaty all mankind will be the ultimate beneficiaries.[198]

[198]Following the approval by the United Nations General Assembly of the Treaty on December 5, 1979, it was opened for signature and ratification. By September 15, 1980 the treaty had entered into force for Chile, France, Romania, The Philippines, Austria, and Morocco. United Nations Document A/RES/34/68, 14 Dec. 1979; 18 INT'L LEGAL MATERIALS 1434 (1979).